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A TREATISE

ON

THE LAW OF PATENTS

FOR

USEFUL INVENTIONS.

A TREATISE

ON

THE LAW OF PATENTS

FOR

USEFUL INVENTIONS

IN THE

UNITED STATES OF AMERICA.

SECOND EDITION,

WITH MANY ADDITIONS.

BY

GEORGE TICKNOR CURTIS,

COUNSELLOR AT LAW.

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PREFACE TO THE SECOND EDITION.

A LITTLE more than four years has elapsed since the first publication of this work, and a Second Edition is now called for. The English and American decisions, made since the publication of the First Edition, have been incorporated with the notes; and such alterations and additions have been made in the text, as were necessary to adapt it to the advanced state of the Patent Law. I have republished, in the Appendix to this Volume, Mr. Thomas Webster's very able tract on the Subject-Matter of Patents.

I avail myself of this opportunity to express my grateful acknowledgments both to the Bench and the Bar, for the manner in which this work has been received, and for the place that has been assigned to it, among the Treatises on this important branch of jurisprudence.

BOSTON, JANUARY 1st, 1854.

PREFACE TO THE FIRST EDITION.

THE following work, the fruit of careful studies in a department of jurisprudence of great practical importance, is presented to the Profession, not without anxiety as to its reception. This branch of the law is so peculiar, the subjects with which it is concerned are so abstruse, and so much caution is requisite in dealing with its principles and in combining them into a system, that no writer can expect wholly to satisfy the wants of his readers, who does not bring to its treatment a force of intellect and a reputation as a jurist, which entitle him to be regarded in the light of an authority. But it cannot be my hope, as it is not my desire, to escape criticism. Looking upon the law as a science of vast practical consequence to mankind, and desiring to discharge my humble debt to its Profession, I shall gratefully receive, from any competent source, any suggestions of errors or imperfections, in a work designed for practical use.

I have endeavored to walk carefully by the light of adjudged cases; and, although experience has taught me that the Patent Law admits of less reduction to precise rules and axioms than any other branch of jurisprudence, I have endeavored to indicate the true uses of the judgments and opinions of the Courts. The opinions and decisions of judges in patent causes can rarely be treated strictly as precedents, unless they concern the construction of a statute. They are to be regarded as illustrations of the principles of the law, when applied to a particular state of facts; and, consequently, a precise rule is rarely to be eliminated from them, by separation of the principle from the facts to which it has been applied, unless it is certainly one of general or universal application. Correctly regarded, indeed, it is the office of all adjudication to apply the principles of the law, with nice discrimination, to the ever varying circumstances of different states of fact, and not to rely upon former decisions as absolute precedents, where the facts are not certainly the same. But this is peculiarly and eminently true, in the administration of the Patent Law.

Boston, May 1st, 1849.

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ERRATUM.

Pp. 87, 52, 58, 55, 75, 90, *for* **Mass.** *read* **Mas.**

PRELIMINARY OBSERVATIONS.

Writers on the Law of Patents for useful inventions have often introduced their discussions of this branch of the law, by tracing the history of monopolies in the Law of England. This example has not been followed in the present work, because it is believed that it tends to encourage incorrect conceptions of the legal nature of a patent privilege. A patent for a useful invention is not, under our law, or the law of England, a grant of a monopoly, in the sense of the old common law. It is the grant by the government, to the author of a new and useful invention, of the exclusive right, for a term of years, of practising that invention. The consideration, for which this grant is made by the public, is, the benefit to society resulting from the invention; which benefit flows from the inventor to the public in two forms; *first*, by the immediate practice of the invention, under the patent; and *secondly*, by the practice of the invention, or the opportunity to practice it, which becomes the property of the public, on the expiration of the patent. As the exercise of the invention is wholly within the control of him who has made it, who may confine his secret entirely within his own breast, it is apparent that his

consent to make it known and available to others, and finally to surrender it to the public, becomes a valuable consideration, for which, upon the principles of natural justice, he is entitled to receive compensation, in some form, from the public to whom that consideration passes. Inventors, in this respect, stand upon the same broad ground with authors. Both of these classes of persons have created something, intellectual in its nature, the knowledge of which it is desirable to others to possess. Both of them have, at first, the complete right of disposition over that which they have created; and when they part with the exclusive possession of this knowledge, and confer upon others the opportunity of reaping the benefit which it confers, they manifestly consent to something for which they are entitled to receive an equivalent.

Whether we regard the knowledge, remaining for the present in the exclusive control of him whose intellectual production it is, as property, or as a possession of ideas, to which some other term might be more appropriate, it is still a possession, of which the owner cannot, by any rule of natural justice, be deprived, without his consent. In this view, it may, as it seems to me, justly be termed property; for although in political economy, and in common speech, material possessions, or the rights growing out of them, are the objects generally included under that term, yet no one will question that ideas constitute, in ethical contemplation, a portion of a man's possessions entirely under his own control; and in the case of useful inventions, or of written thought, there is to be added to the power of control the further economical fact, that other men will part with valuable possessions of all kinds, in order to obtain that invention or writing in exchange.

For these, and for other reasons, which I have endeavored more fully to develop elsewhere, in relation to the rights of authors, I do not hesitate to affirm, that in natural justice — the ethics of jurisprudence, by which civil rights are to be examined, apart from all positive law, but on which positive law is usually founded — the intellectual conception of an inventor, or a writer, constitutes a valuable possession, capable of being appreciated as a consideration, when it passes, by his voluntary grant, into the possession of another. If, by the same voluntary grant, this possession is bestowed upon the public, the logical justice of compensation, in some form, will appear, at once, by supposing the benefit to have been conferred exclusively upon any one of the mass of individuals who form in the aggregate the moral entity termed the public.

Let us suppose that A., by the exertion of his inventive faculties, has ascertained, that by placing matter in certain positions to be operated upon by the forces of nature, a result will be produced, in the shape of an instrument, wholly unknown before, and capable of being usefully applied to the wants of mankind. Let us suppose that B., seeing the result, but wholly ignorant of the process by which it may be attained, desires to possess that instrument. Common gratitude would prompt him to return something valuable for it, if it were given to him; common policy would lead him to offer something for it, if it were not freely given; and common justice requires that he should not take it, without an equivalent. How does it alter the case, if, instead of a single specimen of the instrument, we suppose A. to have retained in his recollection the process by which copies of that instrument may be indefinitely multiplied, and that

it is the secret process of making the thing, the intellectual conception and knowledge, which B. desires to possess? If he obtains it, he can make the thing for his own use, or for the use of others, and by so doing can acquire valuable possessions in exchange; all of which A. could do exclusively, by retaining his own secret. But if he imparts that secret to B., he is surely entitled to receive for it some reward or remuneration.

This secret the inventor undertakes to impart to the public, when he enters into the compact, which the grant of a patent privilege embraces. In that compact, he promises, after the lapse of a certain period, to surrender to the public completely the right of practising his invention; and, as a guaranty against his concealment of the process by which it is to be practised, and to prevent the loss of this knowledge, he is required to deposit in the archives of the government a full and exact description in writing of the whole process, so framed, that others can practise the invention from the description itself. The public, on the other hand, through the agency of the government, in consideration of this undertaking of the inventor, grants and secures to him the exclusive right of practising his invention for a term of years.

In all this, a patent-right, under the modern law of England and America, differs essentially from one of the old English Monopolies. In those grants of the crown, the subject-matter of the exclusive privilege was quite as often a commodity of which the public were and long had been in possession, as it was any thing invented, discovered, or even imported by the patentee.

Nothing passed, in such cases, from the patentee to the public, in the nature of a consideration for the enormous privilege conferred upon him; but the public were

robbed of something already belonging to them, namely, the right to make or deal in a particular commodity, for the benefit of the favored grantee of the crown. So broad is the distinction between these cases and that of the meritorious inventor or importer of something new and useful, that when Parliament, in the 21 James I., taking encouragement from the courts of law, prohibited the granting of exclusive privileges in trade, by the Statute of Monopolies, they introduced an exception in favor of "letters-patent and grants of privilege for the term of one and twenty years or under, heretofore made, of the sole working or making of any manner of new manufacture, within this realm, to the first and true inventor or inventors of such manufactures, which others at the time of the making of such letters-patent and grants, did not use, so they be not contrary to law, nor mischievous to the state, by raising the prices of commodities at home, or hurt to trade, or generally inconvenient," &c.

Upon this exception, the law of England, concerning Patents for Useful Inventions, stands to this day.

The modern doctrine, in England, and undoubtedly the doctrine of our law, is, that in the grant of a patent-right, a contract, or, as it has been said, a bargain, takes place, between the public and the patentee. As far as the old cases on the subject of monopolies furnish, like other cases of grants by the crown, rules and analogies for the construction of this species of grant, so far the history of monopolies has a bearing upon this branch of jurisprudence. But it should always be remembered that in the grant of a patent privilege, as now understood, a contract takes place between the public and the patentee, to be supported upon the ground of mutual considerations, and to be construed, in all its essential

features of a bargain, like other contracts to which there are two parties, each having rights and interests involved in its stipulations.

It is necessary also to have clear and correct notions of the true scope of a patent-right, because its nature and character will show whether there is any close analogy between such privileges and those to which the term monopoly is correctly applied. In this connection, therefore, I shall attempt a brief general description of the subject of protection, in patent-rights; without, however, designing to lay down definitions, or to draw exact lines, within, or without which controverted cases may fall; but solely with the purpose of stating certain general principles and truths, the application and development of which may be found to assist, in particular cases, the solution of the question, whether a particular invention or discovery is by law a patentable subject.

In this inquiry it is necessary to commence with the process of exclusion; for although, in their widest acceptation, the terms invention and discovery include the whole vast variety of objects on which the human intellect may be exercised, so that in poetry, in painting, in music, in astronomy, in metaphysics, and in every department of human thought, men constantly invent or discover, in the highest and the strictest sense, their inventions and discoveries in these departments are not the subjects of the patent law. Another branch of jurisprudence, of a kindred nature, aims at the protection and establishment of property in literary productions, and in some of those which fall within the province of the fine arts. The patent law relates to a great and comprehensive class of discoveries and inventions of some new and useful effect or result in matter, not referable to the

department of the fine arts. The matter of which our globe is composed, is the material upon which the creative and inventive faculties of man are exercised, in the production of whatever ministers to his convenience or his wants. Over the existence of matter itself, he has no control. He can neither create nor destroy a single atom of it; he can only change its form, by placing its particles in new relations, which may cause it to appear as a solid, a fluid, or a gas. But under whatever form it exists, the same matter, in quantity, that was originally created, exists now, and, so far as we now know, will forever continue to exist.

The direct control of man over matter consists, therefore, in placing its particles in new relations. This is all that is actually done, or that can be done — namely, to cause the particles of matter existing, in the universe, to change their former places, by moving them, by muscular power, or some other force. But as soon as they are brought into new relations, it is at once perceived that there are vast latent forces in nature, which come to the aid of man, and enable him to produce effects and results of a wholly new character, far beyond the mere fact of placing the particles in new positions. He moves certain particles of matter into a new juxtaposition, and the chemical agencies and affinities called into action by this new contact, produce a substance possessed of new properties and powers, to which has been given the name of gunpowder. He takes a stalk of flax from the ground, splits it into a great number of filaments, twists them together, and laying numbers of the threads thus formed across each other, forms a cloth, which is held together by the tenacity or force of cohesion in the particles, which nature brings to his aid. He moves into new posi-

tions and relations certain particles of wood and iron, in various forms, and produces a complicated machine, by which he is able to accomplish a certain purpose, only because the properties of cohesion and the force of gravitation cause it to adhere together and enable the different parts to operate upon each other and to transmit the forces applied to them, according to the laws of motion. It is evident, therefore, that the whole of the act of invention, in the department of useful arts, embraces more than the new arrangement of particles of matter in new relations. The purpose of such new arrangements is to produce some new effect or result, by calling into activity some latent law, or force, or property, by means of which in a new application, the new effect or result may be accomplished. In every form in which matter is used, in every production of the ingenuity of man, he relies upon the laws of nature and the properties of matter, and seeks for new effects and results through their agency and aid. Merely inert matter alone is not the sole material with which he works. Nature supplies powers, and forces, and active properties, as well as the particles of matter, and these powers, forces, and properties are constantly the subjects of study, inquiry, and experiment, with a view to the production of some new effect or result in matter.

Any definition or description, therefore, of the act of invention, which excludes the application of the natural law, or power, or property of matter, on which the inventor has relied for the production of a new effect, and the object of such application, and confines it to the precise arrangement of the particles of matter which he may have brought together, must be erroneous. Let us suppose the invention, for the first time, of a steam-engine,

in one of its simplest forms, the use of steam as a motive power having never been discovered before. Besides all the other powers of nature, of which the inventor avails himself almost without thought, by which the different parts of his machine are held together and enabled to transmit the forces applied to them, he has discovered and purposely applied the expansive power of steam, as the means of generating a force that sets his machine in motion. All that he actually does with the matter in which this expansive power resides, is to turn certain particles of matter into certain particles of vapor, and to bring that vapor in contact with an obstructing mass of matter, to which it communicates motion, by pushing it from its place. But the invention consists in observing and applying this natural power, the expansive force of steam, to produce the effect or result of moving the obstructing mass of matter from the place where it was at rest. It would be singularly incorrect and illogical to say, that a man who should take a certain other quantity of matter, and convert it into a certain other quantity of steam, and bring that steam in contact with a certain other obstructing mass of wood or iron, for the purpose of moving it, would not produce the same effect by the same means, as the person who first discovered and applied the expansive power of steam to move a piece of wood or iron.

Again, let us take the case of an improvement in the art of manufacturing iron, which consisted in the discovery that a blast of air introduced into a smelting furnace in a heated state, produces an entirely different effect on the iron manufactured from the ore, to that produced by blowing the furnace with cold air. What the inventor did, in this case, was, to introduce a certain amount of

caloric into the blast of air, on its passage from the blowing apparatus into the furnace, thereby creating a blast of a new character, productive of a new effect; and any other person who should introduce caloric into a certain other quantity of atmospheric air, and use that air, so heated, to blow a smelting furnace, would do precisely the same thing. The invention consisted in the discovery and application of the law or fact, that heated air produces a different effect from cold air, in a particular art, and in thereby accomplishing a new result in that art.

In these and in all other cases, there is a particular arrangement of matter, which consists in the new relations and positions in which its particles are placed. But beyond this, there is also the effect or result, produced by the action of the forces of nature, which are for the first time developed and applied, by the new arrangement of the matter in which they reside. The use and adaptation of these forces is the direct purpose of the inventor; it is as new as the novel arrangement in the particles of matter; and it is far more important. In fact, it is the essence and substance of the invention; for if no new effect or result, through the operation of the forces of nature, followed the act of placing portions of matter in new positions, inventions would consist solely in new arrangements of particles of inert matter, productive of no new consequences beyond the fact of such new position of the particles.

However inadequate, therefore, the term may be, to express what it is used to convey, it is obvious that there is a characteristic, an essence, or purpose of every invention, which, in our law, has been termed by jurists its *principle;* and that this can ordinarily be perceived and apprehended by the mind, in cases where the purpose

and object of the invention does not begin and end in form alone, only by observing the powers or qualities of matter, or the laws of physics, developed and put in action by that arrangement of matter, and the effect or result produced by their application. Even in cases where the subject of the invention consists in form alone, the principle or characteristic of the invention is the result produced by the aid and through the action of the qualities of matter. As, for instance, to take the simplest case, if I make a round ball, for the first time, of clay, or stone, or wood, I do so by putting the particles of matter in those relations and positions, in which, through the attraction of cohesion which holds them together, the result of spherical form will be produced: and this result, so produced, is the essence or principle of the invention. In the case of inventions which are independent of form, we arrive at the principle of the invention in the same way. As, if I, for the first time, direct a column of steam against a piece of wood or iron, for the purpose of producing motion, the characteristic or principle of my invention consists in the use and application of the expansive force of steam and the effect of motion thereby produced; and these remain logically the same, whether the form and size of the wood or iron, and the form or size of the column of steam are the same as mine, or different.

It is apparent, then, that the mere novel arrangement of matter, irrespective of the purpose and effect accomplished by such arrangement through the agency of natural forces or laws, or the properties of matter, is not the whole of invention; but that the purpose, effect, or result, and the application of the law, force, or property by means of which it is produced, are embraced in the

complex idea of invention, and give the subject of the invention its peculiar character or essence. And if this is true it is easy — and correct as it is easy — to advance to the position that the discovery and application of a new force or law of nature, as a means of producing an effect or result in matter never before produced, may, in some cases be the subject of a patentable invention. When it has been laid down that a "principle" — meaning by this use of the term, a law of nature, or a general property of matter, or rule of abstract science — cannot be the subject of a patent, the doctrine, rightly understood, asserts only that a law, property, or rule cannot, in the abstract, be appropriated by any man; but if an inventor or discoverer for the first time produces an effect or result, practically, by the application of a law, he may so far appropriate that law, as to be entitled to say, that whoever applies the same law to produce the same effect or result, however the means, apparatus, forms, or arrangements of matter may be varied, practises or makes use of his invention, unless the variation of means, apparatus, method, form, or arrangement of matter, introduces some new law, or creates some new characteristic, which produces or constitutes a substantially different result. For, in all such cases, the peculiarity of the invention consists in the effect produced by the application of the natural law, as an agent; and this effect is not changed by the use of different vehicles, for the action of the agent provided there is still the same agent, operating substantially in the same way, to produce substantially the same effect or result.

This may be illustrated by several inventions or discoveries, for which patents have been granted and which have been the subjects of litigation. One of the most

striking of these cases is that already mentioned, of the application of a hot air blast to the production of a particular effect in the manufacture of iron. It is very easy to say, in general terms, that no man can appropriate to himself the use of caloric, which is a substance, or element, or force in nature, bountifully supplied, as the common property of mankind. But if any man has discovered that the use of caloric in a particular manner, never before observed, will, as a universal fact, produce a particular effect, of a new character, upon matter, what reason can exist why he should not appropriate to himself the production of that effect by the use of that particular agent? His appropriation, in such a case, would embrace strictly what he has invented. It may be more or less meritorious; it may have been more or less difficult or easy of discovery; it is still his invention, and any one else who does the same thing after the inventor, however he may vary the particular means or apparatus, practises that invention which the inventor was the first to discover and announce to the world. If the Patent Law were to say, in this case, that the invention or discovery could not be appropriated by him who had made it, because caloric is the common property of all men, it would be obliged, in consistency, to say that a certain arrangement of wood and iron, constituting a new machine, could not be appropriated by the inventor, because cohesion, gravitation, and the laws of motion, which are all applied by the inventor to the accomplishing a certain effect, are the common property of every man. But the patent law does not come to such determinations. It proceeds upon the truth, that while the properties of matter, the forces or elements of nature are common property, any man who applies them to the production

of a new and useful effect in matter, may rightfully claim to have been the inventor of that application to the purpose of that effect. The effect itself is what is commonly regarded as the patentable subject; but as that particular effect must always be produced by the application of the same properties of matter, or the same forces or elements in nature, it is correct to say that the appropriation rightfully includes their application to the production of the effect, and that to this extent they may be appropriated.

Inventions which consist in the application of the known qualities of substances, extend the appropriation of the inventor to those qualities in the same manner and in the same sense. For instance, in the case of Walton's improvement in the manufacture of cards for carding wool, &c., which consisted in giving elasticity and flexibility to the backs of the cards, by making the sheet on the back, in which the teeth are inserted, of India rubber, instead of leather. The qualities of elasticity and flexibility in India rubber were common property; but this did not prevent the inventor from sustaining a patent, which was held to cover the general ground of giving to the backs of cards elasticity and flexibility derived from India rubber, by whatever form of application of the India rubber the effect might be produced.[1]

In the same manner, inventions which consist in the application of a well known law of physical science, involve and admit of the appropriation of that law in its application to the production of the particular effect, however the machinery or apparatus may be varied. There is a known law of physics, that the evaporation of a liquid is promoted by a current of air, and this law is

[1] See *post*, p. 305.

common property. An invention of certain improvements in evaporating sugar consisted in applying this law, by forcing atmospheric air through the liquid syrup, by means of pipes, the ends of which were carried down nearly to the bottom of the vessel containing the solution; and it is obvious that any person who should apply the same law to the same purpose, though by a different apparatus, would practise the same invention.[1] Although, therefore, it is not safe, in reasoning upon the Patent Law, to lay down general rules, of an abstract character, with the purpose of describing what every inventor appropriates to himself, without regard to the particular circumstances of the invention, yet it is, on the other hand, equally unsafe to assume, because the properties of matter, or the laws of physics, or the forces of nature, are common property, that no inventor can establish a claim of a general character, irrespective of particular methods or forms of matter, to the application of such properties, laws, or forces in the production of a certain effect.

It is, in truth, wholly incorrect to say that the inventor, in such cases, because his patent is held to embrace such a general claim, monopolizes the law, property, or quality of matter which he has applied by a particular means to the accomplishment of a certain end. His patent leaves the law, property, or quality of matter, precisely where it found it, as common property, to be used by any one, in the production of a new end, by a new adaptation, of a different character. It appropriates the law, property, or quality of matter, only so far as it is involved in the subject with which, the means by which, and the end for which the inventor has applied it; and this application

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[1] *Post*, p. 807.

constitutes the essence and substance of the invention, in all cases, and is in reality what the patentee has invented. He cannot be deprived of it, without violating the principles on which all property in invention rests, and denying the whole policy of the Patent Law. The test which marks the extent and nature of his just appropriation is the same that is applicable to every invention.

This test may be stated thus; that the truth, law, property, or quality of matter, which, by reason of its application, enters into the essence of an invention, may be appropriated, to the extent of every application, which, according to the principles of law, and the rules of logic, is to be deemed piracy of the original invention.

One of the most well settled as well as soundest doctrines of the Patent Law, is, that where form, arrangement of matter, proportion, method of construction, or apparatus employed, are not of the essence of the invention, any changes introduced in them, which do not effect a change in the characteristic, or purpose of the invention, are changes in immaterial circumstances. When the patent is a patent for form, or particular arrangement, or, for the apparatus devised to accomplish a particular effect, changes in these respects will be changes in the subject-matter of the invention; but in cases where the invention has a characteristic or an aggregate of characteristics, independent of particular form, method, arrangement, or apparatus, changes in these things amount only to the substitution of one equivalent for another, unless they cause a change in the characteristic, essence, or, as it is commonly called, the *principle* of the invention. This is very clearly seen in the case of machinery. The characteristic, or principle of the invention, consists in producing a certain effect by the

application of motion, through a form of apparatus adapted to that result. But if the same effect of the combined operation of the different parts of the mechanism can be produced by substituting a different contrivance, which does not change the characteristic of the machine, but is a mere equivalent for the part for which it is substituted, such a substitution is only a different mode of practising the same invention.

In this sense, all inventions are independent of form, except those whose entire essence, purpose, and characteristics begin and end in form alone; as would be the case with the manufacture of a sphere, or a cube, for the first time; and as is the case with all manufactures, the utility and advantage and proposed object of which depend on form. But where there is a purpose that does not begin and end in form alone, where the form or arrangement of matter is but the means to accomplish a result of a character which remains the same, through a certain range of variations of those means, the invention is independent of form and arrangement, to this extent, that it embraces every application of means which accomplishes the result without changing its nature and character. In other words, it may be stated, as a general proposition, that in the characteristic, or principle of an invention, are embraced the truth, law, property, or quality of matter, which is applied to the production of a result, and the result of such application; and that, by reason of such application, the truth, law, property, or quality of matter is appropriated, to the extent of all other applications which a jury, under the guidance of the law, shall consider as a piracy of the former.

In coming to this result, the Patent Law establishes no monopoly beyond the fair fruits of actual invention. It

protects the real inventor in the enjoyment of what he was the first to produce; and it recognizes, as substantive inventions, all changes which may be produced in the same line of experiment, or in the same department of labor, which introduce new characteristics, new results, or new advantages, not embraced by the former invention. As long as the Patent Law exists at all, to afford protection to the labors of ingenious men, it must proceed upon this fundamental principle. It is now too late in the history of civilization, to question the policy of this protection, which forms a prominent feature in the domestic polity of every nation which has reached any considerable stage of progress in the arts of civilized life.

It will be seen, in the following pages, how far these views have prevailed in the administration of the Patent Law, in England and America, and to what extent they have been developed, in particular cases. They have led, in the construction of patents in England, to a somewhat different spirit from that which formerly animated the courts of law; for formerly, the judges exercised their ingenuity to defeat every patent that came before them, if it could by possibility be defeated. This was done upon the notion, that a patent is the grant of a privilege against common right; and hence some judges were in the habit of saying that they were "not favorers of patents." But within the last twenty years, a different view has been adopted; the more just and liberal doctrine has been acted upon, that public policy requires the encouragement of the inventive powers of ingenious men, and that this policy is supported by every consideration of justice. The consequence has been, that the Patent Law has made greater advances, in England, within the last twenty years, towards a consistent and

admirable system of justice, than it has ever made before during the whole period that has elapsed since the enactment of the statute of Monopolies.

In America, the more liberal policy has always prevailed, from the time when patent-rights came under the protection of the General Government; and the rule has been often laid down by the courts of the United States with a good deal of strength — as if in obedience to the spirit of the Constitution — that patents ought to be construed liberally. Perhaps the general language which has thus been employed by judges, would lead to the conclusion, that the leaning of the courts is, systematically, in favor of the patentee and against the public; but this tendency has not been exhibited so strongly, in practice, as to derange the administration of the law.

The truth is, a patent should be construed as, what it really is in substance, namely, a contract or bargain between the patentee and the public, upon those points which involve the rights and interests of either party. These points relate to the extent of the claim, and to the intelligibility of the description for the purposes of practice. The first is universally a question for the court; the last is generally a question for the jury, under the direction of the court. As to the first question — the extent of the claim presents at once the relations between the patentee and the public; for it involves, among other things, the inquiry, whether the patentee has claimed any thing beyond what was really his own invention. If, in representing himself as the inventor of the thing for which he has asked and received a patent, the inventor has included in his claim any thing that existed before, he has made a representation untrue in point of fact; and whether he has made this representation intentionally or

unintentionally, the grant of the patent proceeds upon it, and if it is not true, the grant is not supported by an existing consideration, such as the inventor has represented it to be. In determining this question, whether the patentee has really included in his claim something which he did not invent, two things are to be ascertained; *first*, whether he makes use of any thing not new; and *second*, whether that thing, according to the fair import of his language, is represented to be a part of the invention which he claims to have made. The fact of whether he makes use of any thing not new, is a question depending upon evidence, if it is not manifest on the face of the description. It is upon the second branch of the inquiry, whether the old thing is really included in the claim of invention, that the true principles of construction have to be applied. Recollecting, on the one hand, that if the public have been misled, the patent ought not to stand, because of the false representation; and on the other hand, that a construction, which will destroy the patent, ought not to be adopted lightly, it would seem to be the true rule, to construe the patent fairly, and so as to arrive at the just import of the language in which the claim is set forth. But if, after applying this rule, the question remains doubtful whether the claim is not broader than the invention, then the rule should be adopted in favor of the patent, that the patentee is to be presumed to have intended to claim no more than he has actually invented. Every patentee is presumed to know the law, and to know that if he includes in his claim something which he has not invented, his claim is void. Such a claim is a kind of fraud upon the public, with whom the applicant offers to enter into a contract, when he asks for his patent; and fraud is never to be presumed, but is always

to be proved. The rule, therefore, which presumes, in doubtful cases, that the patentee intended to claim no more than his actual invention, is founded in a maxim of general application to contracts; and it will be seen, in practice, that it has no tendency to support patents which ought not to be supported, or to encourage loose and sweeping claims. In all cases which are not doubtful, — where it is manifest that the claim admits of no construction but that which makes it too comprehensive to be valid, — this rule will have no application. The imposition attempted will be apparent, and the fraud — so far as it is a fraud — will not require to be presumed, but will stand proved.

This rule, although not distinctly announced, by any of our courts, has much to support it, in several authorities. Judges would seem to have had a rule of this kind in view, when they have construed patents under the guidance of the maxim, *ut res magis valeat, quam pereat.* The use of this maxim, which has often furnished the spirit of construction in particular cases, implies that the claim is to be supported, if it can be done without a violation of principle. But the rule has been distinctly applied in England, by the Court of Common Pleas, that the patentee is not to be presumed to have intended to claim things which he must have known to be in common use, although in describing his invention, he has not expressly excluded them from the claim. There are also cases, in this country, where it has been held not to be necessary to use words of exclusion, in reference to details, where it appears from the whole description of the invention that the new is capable of being distinguished from the old.

The same rule, in cases of doubt, should be applied to

the construction, where the question is, whether the patentee has claimed as much as he has invented; that is to say, the specification should be so construed as to make the claim coextensive with the actual invention, if this can be done consistently with principle.

But beyond this rule, it is not necessary or wise to go, in the construction of patents. By giving the patentee the benefit of this presumption, in cases of doubt, the doubt will be removed, and the patent will remain good for the real invention. But where there is no room for doubt, and no occasion for the application of the rule, but the claim is manifestly broader or narrower than the real invention, there can be no hesitation about the judgment to be pronounced, especially since the provisions of our law, by which a patent may remain valid *pro tanto*, after the real invention of the party has been judicially ascertained.

PART I.

THE SUBJECT-MATTER OF PATENTS,

AND THE

PARTIES ENTITLED THERETO.

PART I.

THE SUBJECT-MATTER OF PATENTS, AND THE PARTIES ENTITLED THERETO.

CHAPTER I.

NOVELTY AND UTILITY.

§ 1. The Patent Act now in force in this country requires that the subject of every patent should be "new and useful," whether it be an art, machine, manufacture, or composition of matter, or an improvement on any of these things.[1] The inquiry that meets us on the threshold is, what constitutes novelty, and what constitutes utility, in the sense of the statute?

§ 2. It is one of the first principles of patent law, that a patent cannot be obtained for a mere philosophical or abstract theory, be the subject what it may: it can only be for theory reduced to practice. If, therefore, the subject of the patent be an art, it must be an art actually put in practice and unknown before; — if it be a machine, it must be substantially new in its structure and mode of operation, and not merely changed in form or in the proportion of its parts:[2] — if it be a manufacture, or composition of matter, it must be something

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[1] Act of July 4, 1836, c. 357, § 6.

[2] Lowell *v.* Lewis, 1 Mason's R. 182, 187; Wyeth *v.* Stone, 1 Story's R. 273, 279.

protects the real inventor in the enjoyment of what he was the first to produce; and it recognizes, as substantive inventions, all changes which may be produced in the same line of experiment, or in the same department of labor, which introduce new characteristics, new results, or new advantages, not embraced by the former invention. As long as the Patent Law exists at all, to afford protection to the labors of ingenious men, it must proceed upon this fundamental principle. It is now too late in the history of civilization, to question the policy of this protection, which forms a prominent feature in the domestic polity of every nation which has reached any considerable stage of progress in the arts of civilized life.

It will be seen, in the following pages, how far these views have prevailed in the administration of the Patent Law, in England and America, and to what extent they have been developed, in particular cases. They have led, in the construction of patents in England, to a somewhat different spirit from that which formerly animated the courts of law; for formerly, the judges exercised their ingenuity to defeat every patent that came before them, if it could by possibility be defeated. This was done upon the notion, that a patent is the grant of a privilege against common right; and hence some judges were in the habit of saying that they were "not favorers of patents." But within the last twenty years, a different view has been adopted; the more just and liberal doctrine has been acted upon, that public policy requires the encouragement of the inventive powers of ingenious men, and that this policy is supported by every consideration of justice. The consequence has been, that the Patent Law has made greater advances, in England, within the last twenty years, towards a consistent and

admirable system of justice, than it has ever made before during the whole period that has elapsed since the enactment of the statute of Monopolies.

In America, the more liberal policy has always prevailed, from the time when patent-rights came under the protection of the General Government; and the rule has been often laid down by the courts of the United States with a good deal of strength — as if in obedience to the spirit of the Constitution — that patents ought to be construed liberally. Perhaps the general language which has thus been employed by judges, would lead to the conclusion, that the leaning of the courts is, systematically, in favor of the patentee and against the public; but this tendency has not been exhibited so strongly, in practice, as to derange the administration of the law.

The truth is, a patent should be construed as, what it really is in substance, namely, a contract or bargain between the patentee and the public, upon those points which involve the rights and interests of either party. These points relate to the extent of the claim, and to the intelligibility of the description for the purposes of practice. The first is universally a question for the court; the last is generally a question for the jury, under the direction of the court. As to the first question — the extent of the claim presents at once the relations between the patentee and the public; for it involves, among other things, the inquiry, whether the patentee has claimed any thing beyond what was really his own invention. If, in representing himself as the inventor of the thing for which he has asked and received a patent, the inventor has included in his claim any thing that existed before, he has made a representation untrue in point of fact; and whether he has made this representation intentionally or

bearing the amount of thought, design, or ingenuity that may have been expended, has upon the question of novelty. It may not be necessary that there should be positive evidence of design, thought, or ingenuity; but if it is necessary that the possibility of these qualities having been exercised should not be excluded by the character of the supposed invention, then such possibility becomes one test of the sufficiency of invention. While the law does not look to the mental process by which the invention has been reached, but to the result, it may still require that the result should be such as not to exclude the possibility of some skill or ingenuity having been exercised. It requires this, because it requires that the subject-matter of a patent should be something that has not substantially existed before. While such a thing may have been produced by mere accident, and not by design, yet it may also have been the fruit of design and study. If, however, the character of the alleged invention be such, that no design or study could by possibility have been exercised in its production, then its character is strong proof that it does not differ substantially from what had been produced before. We must look, therefore, to the character and purposes of the invention, and not to the actual process by which it was produced, in order to see that the possibility of thought, design, ingenuity, or labor having been exercised, is not excluded.[1]

§ 7. Thus, if an alleged invention is absolutely frivolous and foolish, though it may have the element of novelty, in one sense, it is not the subject of a patent. So, too, mere colorable variations, or slight and unimportant changes, will not support a patent; as the immersion of cloth in a steam bath, with the view of damping it, instead of immersing it in hot water;[2] and the substitution of steam as the means of heating hollow rollers over which wool was to be passed, instead of

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[1] See *post* § 27 a.

[2] Rex *v.* Fussell, cited in Webster on the Subject-Matter of Patents p. 26.

heating them by the insertion of hot iron bars.[1] In such cases, if the consequences resulting from the change are unimportant, and the change consists merely in the employment of an obvious substitute, the discovery and application of which could not have involved the exercise of the inventive faculty, in any considerable degree, then the change is treated as merely a colorable variation, or a double use, and not as a substantive invention.[2]

§ 8. On the other hand, the utility of the change, and the consequences resulting therefrom, may be such, as to show that the inventive faculty may have been at work; and in such cases, though, in point of fact, the change was the result of accident, its utility and importance will afford the requisite test of the amount of invention involved in the change. Thus the mere substitution of one metal for another, in a particular manufacture, might be the subject of a patent, if the new article were better, more useful, or cheaper than the old.[3] In Crane's patent the invention consisted in the use of anthracite and hot air-blast, in the manufacture of iron, in the place of

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1 Rex *v.* Lister, cited in Webster on the Subject-Matter of Patents, p. 26.

2 The illustrations put by Lord Abinger, in Losh *v.* Hague, Webster's Pat. Cas. 208, present the distinctions here taken in an amusing form. "If a Surgeon had gone to a Mercer, and said, 'I see how well your scissors cut,' and he said 'I can apply them instead of a lancet, by putting a knob at the end,' that would be quite a different thing, and he might get a patent for that; but it would be a very extraordinary thing to say, that because all mankind have been accustomed to eat soup with a spoon, that a man could take out a patent because he says you might eat peas with a spoon."

3 "If the composition of matter now called a silver tea-pot, had existed before the introduction of tea, and been used for making similar infusions from other ingredients, its appropriation or application to making tea, could not have been the subject-matter of a patent, this being the double use of a known thing, as of a medicine celebrated for one disease, to another; but if such a composition of matter were not known, there might have been patents for a silver pot, as well as for the first earthen tea-pot. No one can say that a silver and an earthern pot are the same manufacture." Webster on the Subject-Matter, p. 25, note. See *post* § 27 a.

no scope for the exercise of the inventive faculty, because the result excludes the supposition of its having been exercised.

§ 11. The same test is also indirectly applicable to another class of cases, where a particular instrument or machine, or combination of machinery, is the subject of the patent. As in Arkwright's case, the gist of the objection was, that the alleged new machinery did not serve the purpose of spinning cotton better than the machinery formerly used.[1] And wherever this objection lies to a particular machine or instrument, there cannot be said to be a sufficiency of invention to support a patent.[2] In the case of Brunton's patent, which covered two inventions, the one was for an improvement in the construction of chain cables, and the other for an improvement in the construction of anchors. As to the first invention, chain cables had been formerly made with twisted links, a wrought iron stay being fixed across the middle of the opening of each link to keep it from collapsing. The alleged improvement consisted in making the links with straight sides and circular ends, and in substituting a cast-iron stay with broad ends, adapted to the sides of the link, and embracing them. This combination of the link and the stay was calculated to sustain pressure better than the old form. The court considered the substitution of a broad-headed stay in the link, in place of a pointed stay, under the circumstances, a sufficient invention to support a patent, on account of the utility of the substitution, in connection with the principles to be carried out, viz., the resistance of pressure according to the action of forces.[3]

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[1] The King *v.* Arkwright, Webs. Pat. Cas. 71.

[2] In Morgan *v.* Seeward, 2 M. & Welsb. 562, Parke, B., said: "On a review of the cases, it may be doubted whether the question of utility is any thing more than a compendious mode, introduced in comparatively modern times, of deciding the question whether the patent be void under the statute of monopolies."

[3] Brunton *v.* Hawkes, 4 B. & Ald. 540, 550. Abbott, C. J., said: "As at present advised, I am inclined to think that the combination of a link of this

§ 12. In respect of the anchor, the invention consisted in making the two flukes in one, with such a thickness of metal in the middle, that a hole might be pierced through it for the insertion of the shank, instead of joining the two flukes in two distinct pieces by welding to the shank. The hole was made conical or bell-mouthed, so that no strain could separate the flukes from the shank, by which means the injury to the iron, from repeated heating, was avoided, only one heating being necessary to unite the end of the shank perfectly with the side of the conical hole. But it appeared at the trial, that the improvement in the anchor was the avoiding the welding, by means well-known and practised in cases extremely similar. It was a case of the simple application of a mode known and practised for a similar purpose in other like cases; and it did not appear that anchors so made were superior to those which had been made before. The court were therefore unanimously of opinion that the patent, in respect of the anchor, could not be sustained.[1]

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particular form, with the stay of the form which he uses, although the form of the link might have been known before, is so far new and beneficial, as to sustain a patent for that part of the invention, if the patent had been taken out for that alone." Bayley J., said: "The improvement in that respect, as it seems to me, is shortly this; so to apply the link to the force to operate on it, that that force shall operate in one place, namely at the end; and this is produced by having a bar across, which has not the defect of the bar formerly used for similar purposes. The former bars weakened the link, and they were weak themselves, and liable to break, and then if they broke, there might be a pressure in some other part. Now, from having a broad-ended bar instead of a conical one, and having it to lap round the link instead of perforating it, that inconvenience would be avoided; and therefore the present impression on my mind as to this part of the case is, that the patent might be supported."

[1] Abbott, C. J., said: "The mode of joining the shank to the flukes of the anchor, is to put the end of the shank, which is in the form of a solid cylinder, through the hollow and conical aperture, and it is then made to fill up the hollow and to unite itself with it. Now that is precisely the mode by which the shank of the mushroom anchor is united to the mushroom-top; by which the shank of the adze anchor is united to its other parts. It is indeed

§ 13. In like manner, where the substance of an invention consisted in spinning with a much less distance between the

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the mode by which the different parts of the common hammer, and the pick-axe also, are united together. Now a patent for a machine, each part of which was in use before, but in which the combination of different parts is new, and a new result is produced, is good; because there is a novelty in the combination. But here the case is perfectly different; formerly three pieces were united together; the plaintiff only unites two; and, if the union of these two had been effected in a mode unknown before, as applied in any degree to similar purposes, I should have thought it a good ground for a patent; but unfortunately, the mode was well known and long practised. I think that a man cannot be entitled to a patent for uniting two things instead of three, where that union is effected in a mode well known and long practised for a similar purpose. It seems to me, therefore, that there is no novelty in that part of the patent as affects the anchor; and, if the patent had been taken out for that alone, I should have had no hesitation in declaring that it was bad." Bayley J., said: "As to the ship's anchor, in substance the patent is for making in one entire piece, that which was formerly made in two. The two flukes of the anchor used to consist of distinct pieces of iron fastened to the shank by welding. In the present form the flukes are in one piece, and, instead of welding them to the shank, a hole is made in the centre, and the shank introduced through the hole. Could there be a patent for making in one entire piece, what before had been made in two pieces? I think not, but if it could, I think that still this would not be new. In the mushroom and the adze anchors, the shank is introduced into the anchor by a hole in the centre of a solid piece; and in reality the adze anchor is an anchor with one fluke, and the double-fluke anchor is an anchor with two flukes. After having had a one-fluked anchor, could you have a patent for a double-fluked anchor? I doubt it very much. After the analogies alluded to in argument of the hammer and pickaxe, I do not think that the mere introducing the shank of the anchor, which I may call the handle, in so similar a mode, is an invention for which a patent can be sustained. It is said in this case that the mushroom anchor and adze anchor, are not ships' anchors, but mooring anchors. I think they are ships' anchors; they are not indeed such anchors as ships carry with them for the purpose of bringing the ship up; but if the ship is required to be stationary, at a particular place, then the common mode of making it stationary, is by the mushroom anchor. So the mode adopted to bring a ship, containing a floating light, to an anchor, is by mooring her to one of these mushroom anchors. That is the description of anchor for a hold-fast to the ship. The analogy between the case of the mushroom anchor and of the adze anchor, is so close to that of the present anchor, that it does not appear to me that this discovery can be considered so far new, as to be

retaining and drawing rollers, than had been before practised, the court held that spinning at a particular distance did not

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the proper ground of a patent; in reality it is nothing more than making in one piece, what before was made in two, and introducing into this kind of anchor, the shank, in the way a handle is introduced into a hammer or pick-axe." Best J., said: "Then as to the anchor, the invention claimed is, that he avoids the welding; but that certainly is not new, because that has been done before in the case of the mushroom and adze anchor, the pickaxe and the common hammer. It is said, however, that his invention consists in the application of that which was known before, to a new subject-matter: viz., that he had, for the first time, applied to the manufacturing of anchors a mode in which welding was avoided, which, however, had been long practised, in other instances to which I have before alluded; but he does not state as the ground upon which he had applied for his patent, nor state in the specification that it being known that the process of welding weakens the anchor, he had first applied to an anchor, a mode long practised in the manufacture of other instruments, viz., of making the two flukes of one piece instead of two. If he had so described his process, the question would then arise whether that would have been a good ground for a patent. I incline to think, however, that it having been long known that welding may be avoided in instruments of a similar form, the application of that practice for the first time to a ship's anchor, cannot be considered a new invention, and therefore that it is not the ground of a patent." Mr. Webster remarks upon this case: "The judges were unanimous in their opinion that the patent, in respect of the improvements in the anchor, could not be supported; that the application of a mode well known, and generally used in several of a class of cases, to one particular case of that class, did not constitute some manner of new manufacture, within the meaning of the statute. If the sufficiency be judged of, only from the invention which the results themselves, the cable and the anchor, exhibit, the substitution of a conical end to the shaft, and of a conical hole in the piece constituting the two arms, whereby the pieces were supposed to be more securely united, is as great a change as the substitution of a broad-headed for a pointed stay across the link. And yet there can be no doubt that the invention in the cable was of a much higher order than in the anchor. The improvement in the cable, was the carrying out into practice, certain important principles respecting the action of forces, by the substitution of a broad-headed for the pointed stay, in a link of a particular form. The improvement in the anchor, was the avoiding the welding, by means well known, and practised in cases extremely similar. There was originality of idea in the application of the broad-headed stay, as subsidiary to the principles for the improvement of the chain cable, as laid down in the specification, but there was no originality of idea or of method in avoiding the welding, this

constitute a new manufacture, it having been the previous practice to spin at variable distances.[1]

§ 14. It appears, then, according to the English authorities that the amount of invention may be estimated from the result, although not capable of being directly estimated on a view of the invention itself.[2]

§ 15. The utility of the change is the test to be applied for this purpose. As there cannot be a decidedly useful new re-

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being borrowed from cases which would obviously and immediately present themselves.

It should also be remarked, with the view of pointing out whatever may have contributed to the subtle distinctions which were drawn in this case, that evidence of the great superiority of the cable was given at the trial, but nothing appears to have been said respecting the anchor. And this has been confirmed by the result, for the cable is in constant and general use, but anchors are made as before the patent." Webster on the Subject-Matter, &c. p. 34.

[1] Kay *v.* Marshall, Webs. Pat. Cas. 1 M. & Cr. 373.

[2] Mr. Webster thus sums up the general doctrine: "But though the amount of invention, and the consequent sufficiency of a change to support a patent, cannot be directly estimated or ascertained, they may be estimated and ascertained from the result; and with this view, two things have to be considered, namely, the nature of the change, and its consequences. The change may be considerable, that is, may of itself exhibit traces of thought, skill and design; the consequences produced thereby may be important and considerable, or unimportant and inconsiderable; in the former case, both the means and the result will be new, and there will be a sufficiency of invention. These four cases, the only cases which can occur, are all included in the following general proposition and practical test, that whenever the change and its consequences taken together, and viewed as a sum, are considerable, there must be a sufficiency of invention to support a patent. Thus, when the change, however minute, leads to consequences and results of the greatest practical utility, as in the case of Dudley's, Crane's, Hall's, and Daniell's patents, the above condition is satisfied; but if the consequence, as in the case of Fussell's patent, be inconsiderable, the change also being inconsiderable, and such as would most readily suggest itself to any one, the condition is not fulfilled, and the invention is not sufficient to support a patent." Webster on the Subject-Matter, &c. p. 29, 30.

sult, without some degree of invention in producing the change which effects that result, when a real utility is seen to exist, a sufficiency of invention may be presumed. And it is said, that whenever utility is proved to exist in a very great degree a sufficiency of invention to support a patent must be presumed.[1]

§ 16. The question now recurs, whether the same general doctrine as to the sufficiency of an invention to support a patent be not applicable under our law. Our statute requires that the subject of a patent should be "new and useful." The word "useful" is not supposed to be used, for the purpose of establishing general utility as the test of a sufficiency of invention to support a patent. It had been held, upon the use of the same word in the same connection in the old Patent Act of 1793, that it was used merely in contradistinction to what is frivolous or mischievous to society. This term was held to be satisfied, if the alleged invention was capable of use, and was not injurious to the well-being, good policy, or sound morals of society.[2]

§ 17. But the subject of a patent must not only be "useful," in this sense, that is, capable of use and not mischievous, but it must also be a "new" art, machine, manufacture, or composition of matter, or "a new improvement" upon one of these things, "discovered or invented" by the patentee, and "not known or used by others" before. It is obvious, therefore, that the subject-matter of a patent must be something substantially different from any thing that has been known or used before; and this substantial difference, in all cases where

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[1] Webster on the Subject-Matter, &c., p. 80; Webster's Pat. Cas. p. 71, note (*e.*)

[2] Lowell *v.* Lewis, 1 Mass. 186; Bedford *v.* Hunt, Ibid. 303; Kneass *v.* Schuylkill Bank, 4 Wash. 9, 12. To maintain a patent, it is not necessary that the thing should be the best of its kind; but if the use for which it is constructed is practicable, that is sufficient to sustain it as a useful invention. Many *v.* Jagger, 1 Blatchford's Circ. Ct. R. 372.

analogous or similar things have been previously known or used, must be the measure of a sufficiency of invention to support the particular patent.[1]

§ 18. Our courts have, in truth, without using the same terms, applied the same tests of the sufficiency of invention, which the English authorities exhibit, in determining whether alleged inventions of various kinds possess the necessary element of novelty. That is to say, in determining this question the character of the result, and not the apparent amount of skill, ingenuity or thought exercised, has been examined; and if the result has been substantially different from what had been effected before, the invention has been pronounced entitled to a patent; otherwise, the patent has failed.[2]

§ 19. Thus, where the patent was for an improvement in *copperplate* printing of bank-notes, by printing copperplate on both sides of the note, or copperplate on one side, and letter-press on the other, or letter-press on both sides, *as an additional security against counterfeiting;* and the defendants had used steel-plate printing; the question was, whether "copperplate printing" included "steel-plate printing." The plaintiff's counsel contended, that even if copperplate did not include steel-plate printing, still the use of the latter by the defendants, applied to bank-notes, to produce the effect stated in the patent, was a mere invasion and virtually an infringement. Washington, J., instructed the jury, that if the use of

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[1] Mr. Phillips has pointed out the provision in the act of 1793, "that simply changing the form or the proportions of any machine or composition of matter in any degree, shall not be deemed a discovery;" and he remarks that this construction would undoubtedly have been put upon the law without any such express exception. He gives the same place in our law to the doctrine of sufficiency of invention, that it occupies in the English law. See Phillips on Patents, 125, 126, 127.

[2] The application of these tests is most frequently found in cases, not where insufficiency of invention has been expressly the ground of defence, but where the question has been whether the patent did not claim something that was not new.

steel plates was an *improvement* upon printing from copperplates, for which a patent might have been obtained by the inventor, the use of steel plates by the defendants could with no propriety be considered as an infringement of the plaintiff's right, unless it appeared that they had also used the plaintiff's improvement.[1]

§ 20. This is in substance the test applied by Mr. Justice Buller, of "any thing material and new, that is an improvement of the trade."[2] If the process of printing by steel plates was an improvement in the manufacture of notes, upon the process of printing by copperplates, so as to be a benefit to the trade of manufacturing notes, it would have been a substantive invention, and therefore not an infringement upon the plaintiff's patent, if standing alone.

§ 21. So too, upon the clause in the former statute, "that simply changing the form or proportion of any machine, shall not be deemed a discovery." Mr. Chief Justice Marshall held that the word "simply" was of great importance; that it was not every change of form or proportion which was declared to be no discovery, but that which was *simply* a change of form or proportion, and nothing more. If by changing the form and proportion, a new effect is produced, there is not simply a change of form and proportion, but a change of principle also. The question will be therefore whether the change has produced a different effect.[3]

§ 22. In like manner, Mr. Justice Livingston decided that a patent was invalid, upon substantially the same test as that of Mr. Justice Buller. The patent was for an alleged invention in folding and putting up thread and floss cotton, in a

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[1] Kneass *v.* The Schuylkill Bank, 4 Wash. 9, 11.

[2] Cited *ante*, § 9.

[3] Davis *v.* Palmer, 2 Brock. 298, 310. See also Pettibone *v.* Derringer, 4 Wash. 218, 219.

manner different from the ordinary mode, so that it would sell quicker and for a higher price, than the same cotton put up in the common way. The article itself was imported and underwent no change. The whole of the improvement consisted in putting up the skeins or hanks in a convenient quantity for retailing, with a sealed wrapper, and a label containing the number and description of the article. The court declared that the invention, upon the patentee's own showing, was frivolous; that it was in no way beneficial to the public, not making the article itself any better, or altering its quality in any way. In other words, it was no "improvement of the trade" of making the article sold, but it was a mere improvement in the art of selling it, by which the retailer could get a higher price for the same article than could be obtained by putting it up without the label.[1]

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[1] Langdon *v.* DeGroot, 1 Paine's C. C. R. 203. The learned judge said: "The invention is for holding the thread and floss cotton in a manner a little different from the ordinary mode, in which form the cotton will sell quicker and higher by twenty-five per cent. than the same cotton put up in the common way. The cotton thus folded is imported from the factory of Holt, in England. The article itself undergoes no change; and the whole of the improvement, for it is a patent for an improvement, consists in putting up skeins of it, perhaps of the same size in which they are imported, decorated with a label and wrapper; thus rendering their appearance somewhat more attractive, and inducing the unwary, not only to give it a preference to other cotton of the same fabric, quality, and texture, but to pay an extravagant premium for it. When stripped of these appendages, which must be done before it is used, the cotton is no better in any one respect than that of Holt's retailed in the way put up by him. All this came out on the plaintiff's own testimony.

Now, that such a contrivance — for with what propriety can it be termed an useful art within the meaning of the constitution? — may be beneficial to a patentee, if he can exclude from the market all other retailers of the very same article, will not be denied; and if to protect the interest of a patentee, however frivolous, useless or deceptive his invention may be, were the sole object of the law, it must be admitted that the plaintiff has made out a satisfactory title to his patent.

But if the utility of an invention is also to be tested by the advantages which the public are to derive from it, it is not perceived how this part of his title is in any way whatever established. So the cotton manufactured by himself,

§ 23. So, too, where the question was whether, in a patent for a machine for making wool-cards, the patentee had not claimed what had been substantially done before, his claim being for the whole machine, which comprehended several distinct operations or stages in the manufacture; Mr. Justice Story said the question was, whether either of these effects had been produced in the machines formerly in use by a combination of machinery or mode of operation substantially the same as in the machine of the patentee. That it would not be sufficient to protect the plaintiff's patent — it being for the whole machine — that his specific machine, with all its various combinations and effects, did not exist before; because, if the different effects embraced in it were all produced by the same application of machinery, in separate parts, and he merely

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which is put up in this way. The very label declares it to be that of another man. So anything done to alter its texture or to render it more portable, or more convenient for use. Nothing of this kind is pretended. Does the consumer get it for less than in its imported condition? The only ground on which the expectation of a recovery is built is, that he pays an enormous additional price, for which he literally receives no consideration.

It is said that many ornamental things are bought of no intrinsic value, to gratify the whim, taste or extravagance of a purchaser, and that for many of these articles patents are obtained. This may be so; but in such cases there is no deception, no false appearances; and the article is bought to be used with all its decorations and ornaments which may have been the principal inducements to the purchase, and which will last as long as the article itself. In this the sight or pride of the party is gratified. But here it is the cotton alone which it is intended to buy, and the little label and wrapper appended to it, and which constitute the whole of the improvement, however showy, are stripped off and thrown away before it can be used. And when that is done, which may be at the very moment of its purchase, the cotton is no better, whatever the buyer at the time may think, than when it first left the factory.

When Congress shall pass a law, if they have a right so to do, to encourage discoveries, by which an article, without any amelioration of it, may be put off for a great deal more than it is worth and is actually selling for, it will be time enough for courts to extend their protection to such inventions, among which this may be very fairly classed."

combined them, or added a new effect, such combination would not sustain his patent for the whole machine;[1] that is to say, without looking at the apparent amount of skill or

[1] Whittemore *v.* Cutter, 1 Gallis. 478. In this case, the learned Judge said: "It is difficult to define the exact cases, when the whole machine may de deemed a new invention, and when only an improvement of an old machine; the cases often approach very near to each other. In the present improved state of machinery, it is almost impracticable not to employ the same elements of motion, and in some particulars, the same manner of operation, to produce any new effect. Wheels, with their known modes of operation, and known combinations, must be of very extensive employment in a great variety of new machines; and if they could not, in the new invention, be included in the patent, no patent could exist for a whole machine embracing such mechanical powers.

Where a specific machine already exists, producing certain effects, if a mere addition is made to such machine, *to produce the same effects* in a better manner, a patent cannot be taken for the whole machine, but for the improvement only. The case of a watch is a familiar instance. The inventor of the patent lever, without doubt, added a very useful improvement to it; but his right to a patent could not be more extensive than his invention. The patent could not cover the whole machine as improved, but barely the actual improvement. The same illustration might be drawn from the steam engine, so much improved by Messrs. Watt and Boulton. In like manner, if to an old machine some new combinations be added, to produce *new effects*, the right to a patent is limited to the new combinations. A patent can in no case be for an effect only, but for an effect produced by a given manner, or by a peculiar operation. For instance, no patent can be obtained for the admeasurement of time, or the expansive operations of steam; but only for a new mode or new application of machinery to produce these effects; and therefore, if new effects are produced by an old machine in its unaltered state, I apprehend that no patent can be legally supported, for it is a patent for an effect only.

On the other hand, if *well known effects* are produced by machinery in all its combinations *entirely new*, a patent may be claimed for the whole machine. So, if the principles of the machine are new, either to produce a new or an old effect, the inventor may well entitle himself to the exclusive right of the whole machine. By the principles of a machine, (as these words are used in the statute) is not meant the original elementary principles of motion, which philosophy and science have discovered, but the *modus operandi*, the peculiar device or manner of producing any given effect. The expansive powers of steam, and the mechanical powers of wheels, have been understood for many

invention involved in bringing these several modes of operation into one machine, which was not the invention claimed, if the result accomplished thereby did not differ substantially, in respect to the processes embraced in it, from what had

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ages; yet a machine may well employ either the one or the other, and yet be so entirely new, in its mode of applying these elements, as to entitle the party to a patent for his whole combination. The intrinsic difficulty is to ascertain, in complicated cases like the present, the exact boundaries between what was known and used before, and what is new, in the *mode of operation*.

The present machine is to make cotton and woollen cards. These were not only made before the present patent, by machinery, but also by machinery which, at different times, exhibited very different stages of improvement. The gradual progress of the invention, from the first rude attempts to the present extraordinary perfection; from the slight combination of simple principles to the present wonderful combinations, in ingenuity and intricacy scarcely surpassed in the world, has been minutely traced by the witnesses on the stand.

The jury, then, are to decide whether the principles of Mr. Whittemore's machine are altogether new, or whether his machine be an improvement only on those which have been in use before his invention. I have before observed that the principles are the *mode of operation*. If the same effects are produced by two machines by the same mode of operation, the principles of each are the same. If the same effects are produced, but by a combination of machinery operating substantially in a different manner, the principles are different.

The great stages (if I may so say) in making the cards by Whittemore's machine, which admit of a separate and distinct operation in the machinery, are, 1. The forming and bending the wire. 2. The pricking the leather. 3. The sticking the wire into the leather; and, 4. The crooking the wire after its insertion. Were either of these effects produced in the machines formerly in use by a combination of machinery or mode of operation substantially the same as in this machine? If so, then clearly his patent could only be for an improvement, and of course it is void; if not, then his patent is free from any objection on the ground of being broader than his invention. It will not be sufficient, to protect the plaintiff's patent, that this specific machine, with all its various combinations and effects, did not exist before; for if the different effects were all produced by the *same application* of machinery in separate parts, and he merely combined them together, or added a new effect, such combination would not sustain the present patent, any more than the artist, who added the second hand or repeater to a watch, could have been entitled to a patent for the whole watch."

been done before in separate machines, the subject-matter claimed as the invention was not new.

§ 24. On the other hand, where the patent claimed, as the invention of the party, a new and useful improvement in the making of friction matches, by means of a new compound, and it was said that the ingredients had been used before in the making of matches, the court said that the true question was, whether the materials had been used before in the same combination, and if not, that the combination was patentable, however apparently simple it might be. That is to say, if the result at which the inventor had arrived, the production of a friction match, by a particular combination of materials, was new, there was a sufficiency of invention, without looking at the apparent facility or difficulty of accomplishing it.[1]

§ 25. So, too, where it was said, in the defence, that a machine for cutting ice was but an application of an old invention to a new purpose, it being likened to the common carpenter's plough, the court distinguished the machine from

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[1] Ryan *v.* Goodwin, 3 Sumner's R. 514, 518. In this case, Mr. Justice Story said: "It is certainly not necessary that every ingredient, or, indeed, that any one ingredient used by the patentee in his invention, should be new or unused before for the purpose of making matches. The true question is, whether the combination of materials by the patentee is substantially new. Each of these ingredients may have been in the most extensive and common use, and some of them may have been used for matches, or combined with other materials for other purposes. But if they have never been combined together in the manner stated in the patent, but the combination is new, then, I take it, the invention of the combination is patentable. So far as the evidence goes, it does not appear to me, that any such combination was known or in use before Phillip's invention. But this is a matter of fact, upon which the jury will judge. The combination is apparently very simple; but the simplicity of an invention, so far from being an objection to it, may constitute its great excellence and value. Indeed, to produce a great result by very simple means, before unknown or unthought of, is not unfrequently the peculiar characteristic of the very highest class of minds."

everything that had been made before, by pointing out that such a combination of apparatus had not been known before.[1]

§ 26. But where an invention was claimed to be a mode by which the back of a rocking-chair could be reclined and fixed at any angle required, by means of a certain apparatus, the patent was declared void, because the same apparatus or machinery had been long in use, and applied, if not to chairs, at least in other machines, to purposes of a similar nature.[2] An examination of the result attained by the plaintiff showed that he had accomplished nothing which had not been done before, but had merely applied an old contrivance to a new purpose.

§ 27. This last case furnishes a clear line of demarkation between invention and a mere application to a new use. It shows that the end, effect, or result attained must be new;

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[1] Wyeth *v.* Stone, 1 Story's R. 273, 279. In this case, Mr. Justice Story said: "Assuming the patent to be for the machinery described in the specification, and the description of the invention in the specification to be, in point of law, certainly and correctly summed up, (points which will be hereafter considered,) I am of opinion that the invention is substantially new. No such machinery is, in my judgment, established by the evidence to have been known or used before. The argument is, that the principal machine, described as the cutter, is well known, and has been often used before for other purposes, and that this is but an application of an old invention to a new purpose; and it is not therefore patentable. It is said that it is, in substance, identical with the common carpenter's plough. I do not think so. In the common carpenter's plough there is no series of chisels fixed in one plane, and the guide is below the level, and the plough is a movable chisel. In the present machine there are a series of chisels, and they are all fixed. The successive chisels are each below the other, and this is essential to their operation. Such a combination is not shown ever to have been known or used before. It is not, therefore, a new use or application of an old machine. This opinion does not rest upon my own skill and comparison of the machine with the carpenter's plough; but it is fortified and sustained by the testimony of witnesses of great skill, experience, and knowledge in this department of science."

[2] Bean *v.* Smallwood, 2 Story's R. 408, 410.

and that if the same end, effect, or result has been attained before, it is not new, and there has been no invention, but merely an application of means before known to produce an effect before known, on a new occasion. The purpose itself, which is to be accomplished, is not patentable; but the adaptation of materials to the execution of the purpose, or the apparatus by which the purpose is accomplished, is the true subject of the patent: and if the same purpose has in other instances been accomplished by the same means, the use of those means on a new occasion does not constitute a sufficiency of invention. In other words, the machinery, apparatus, or other means is not new.[1]

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[1] In the case last cited, Bean *v.* Smallwood, Mr. Justice Story said: "The third and last specification of claim, upon the testimony of Mr. Eddy, which is admitted to be true, is equally unsupportable. He says, that the same apparatus stated in this last claim has been long in use, and applied, if not to chairs, at least in other machines, to purposes of a similar nature. If this be so, then the invention is not new, but, at most, is an old invention, or apparatus, or machinery, applied to a new purpose. Now, I take it to be clear, that a machine, or apparatus, or other mechanical contrivance, in order to give the party a claim to a patent therefor, must, in itself, be substantially new. If it is old and well known, and applied only to a new purpose, that does not make it patentable. A coffee-mill, applied for the first time to grind oats, or corn, or mustard, would not give a title to a patent for the machine. A cotton gin, applied, without alteration, to clean hemp, would not give a title to a patent for the gin as new. A loom to weave cotton yarn would not, if unaltered, become a patentable machine, as a new invention, by first applying it to weave woollen yarn. A steam engine, if ordinarily applied to turn a grist mill, would not entitle a party to a patent for it if it were first applied by him to turn the main wheel of a cotton factory. In short, the machine must be new, not merely the purpose to which it is applied. A purpose is not patentable; but the machinery, only, if new, by which it is to be accomplished. In other words, the thing itself which is patented must be new, and not the mere application of it to a new purpose or object." In Huddart *v.* Grimshaw, Webster's Pat. Cas. 86, Lord Ellenborough said: "In inventions of this sort, and every other through the medium of mechanism, there are some materials which are common, and cannot be supposed to be appropriated in the terms of any patent. There are common elementary materials to work with in machinery, but it is the adaptation of these materials to any particular purpose that constitutes the

§ 27 *a*. So, too, the substitution of one material for another, in a particular manufacture, if the inventive faculty has not been at work, has been held by the Supreme Court of the United States not to be sufficient to support a patent; and the test whether the inventive faculty has been at work is, whether more ingenuity and skill were required to make the substitution than was possessed by an ordinary mechanic, acquainted with the business. The plaintiff claimed a patent for an improvement in making the knobs of doors, by making them of clay or porcelain, instead of wood or metal. It appeared that the mode of forming the knob, and the mode of fastening it to the shank or spindle were old, and had been used in knobs made of wood or metal. The court said, that unless more ingenuity and skill, in applying the old method of fastening the shank and the knob were required in the application of it to the clay or porcelain knob, than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of invention.[1]

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invention; and if the application of them be new, if the combination in its nature be essentially new, if it be productive of a new end, and beneficial to the public, it is that species of invention which, protected by the king's patent, ought to continue to the person the sole right of vending; but if, prior to the time of his obtaining a patent, any part of that which is of the substance of the invention has been communicated to the public, in the shape of a specification of any other patent, or is a part of the service of the country, so as to be a known thing, in that case he cannot claim the benefit of his patent." See also Hovey *v.* Stevens, 1 Woodbury and Minot's R. 290, 297, 298, 299, where Mr. Justice Woodbury held it doubtful, whether a change, by merely attaching several knives to a cylinder, to be ground, instead of attaching but one, without any difference being shown in producing the rotary motion, was a sufficient change in form, or principle, or results, to justify a patent.

[1] Hotchkiss *v.* Greenwood, 11 Howard's R. 248, 264. Mr. Justice Nelson, delivering the opinion of the court in this case, said: "The instruction assumes, and as was admitted on the argument, properly assumed, that knobs of metal, wood, etc., connected with a shank and spindle, in the mode and by the means used by the patentees in their manufacture, had been before known, and were in public use at the date of the patent; and hence

§ 27 *b*. But, on the other hand, if the end, effect, or result is new, although the same means may previously have been

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the only novelty which could be claimed on their part was the adaptation of this old contrivance to knobs of potter's clay or porcelain; in other words, the novelty consisted in the substitution of the clay knob in the place of one made of metal or wood, as the case might be. And in order to appreciate still more clearly the extent of the novelty claimed, it is proper to add, that this knob of potter's clay is not new, and therefore constitutes no part of the discovery. If it was, a very different question would arise; as it might very well be urged, and successfully urged, that a knob of a new composition of matter, to which this old contrivance had been applied, and which resulted in a new and useful article, was the proper subject of a patent.

The novelty would consist in the new composition made practically useful for the purposes of life, by the means and contrivances mentioned. It would be a new manufacture, and none the less so, within the meaning of the Patent Law, because the means employed to adapt the new composition to a useful purpose was old or well known.

But in the case before us, the knob is not new, nor the metallic shank and spindle, nor the dovetail form of the cavity in the knob, nor the means by which the metallic shank is securely fastened therein. All these were well known, and in common use; and the only thing new is the substitution of a knob of a different material from that heretofore used in connection with this arrangement.

Now it may very well be, that, by connecting the clay or porcelain knob with the metallic shank in this well known mode, an article is produced better and cheaper than in the case of the metallic or wood knob; but this does not result from any new mechanical device or contrivance, but from the fact that the material of which the knob is composed happens to be better adapted to the purpose for which it is made. The improvement consists in the superiority of the material, and which is not new, over that previously employed in making the knob.

But this, of itself, can never be the subject of a patent. No one will pretend that a machine, made, in whole or in part, of materials better adapted to the purpose for which it is used than the material of which the old one is constructed, and for that reason better and cheaper, can be distinguished from the old one; or, in the sense of the Patent Law, can entitle the manufacturer to a patent.

The difference is formal, and destitute of ingenuity or invention. It may afford evidence of judgment and skill in the selection and adaptation of the materials in the manufacture of the instrument for the purposes intended, but nothing more.

used to produce a different effect, and for a different purpose, there may be a patent for the application of the materials to produce the new effect or result. Thus, where the defendant had obtained a patent for an improvement in packing hy-

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I remember having tried an action in the Circuit in the District of Connecticut some years since, brought upon a patent for an improvement in manufacturing buttons. The foundation of the button was wood, and the improvement consisted in covering the face with tin, and which was bent over the rim so as to be firmly secured to the wood. Holes were perforated in the centre, by which the button could be fastened to the garment. It was a cheap and useful article for common wear, and in a good deal of demand.

On the trial, the defendant produced a button, which had been taken off a coat on which it had been worn before the Revolution, made precisely in the same way, except the foundation was bone. The case was given up on the part of the plaintiff. Now the new article was better and cheaper than the old one; but I did not then suppose, nor do I now, that this could make any difference, unless it was the result of some new contrivance or arrangement in the manufacture. Certainly it could not, for the reason that the materials with which it was made were of a superior quality, or better adapted to the uses to which the article is applied.

It seemed to be supposed, on the argument, that this mode of fastening the shank to the clay knob produced a new and peculiar effect upon the article, beyond that produced when applied to the metallic knob, inasmuch as the fused metal by which the shank was fastened to the knob prevented the shank from acting immediately upon the knob, it being inclosed and firmly held by the metal; that for this reason the clay or porcelain knob was not so liable to crack or be broken, but was made firm and strong, and more durable.

This is doubtless true. But the peculiar effect thus referred to is not distinguishable from that which would exist in the case of the wood knob, or one of bone or ivory, or of other materials that might be mentioned.

Now if the foregoing view of the improvement claimed in this patent be correct, it is quite apparent that there was no error in the submission of the questions presented at the trial to the jury; for unless more ingenuity and skill in applying the old method of fastening the shank and the knob were required in the application of it to the clay or porcelain knob than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention. In other words, the improvement is the work of the skilful mechanic, not that of the inventor.

draulic, and other machines, by means of a lining of soft metal, and thereby rendering certain parts of such machines air and fluid tight; and the plaintiff afterwards discovered that soft metal had the property of diminishing friction, and of preventing the evolution of heat, when applied to surfaces in contact when in rapid motion and subject to pressure, and took a patent for the application of this discovery to machines; it was held, that the application of the soft metal by the plaintiff, differing essentially from that of the defendant, and the plaintiff having confined his claims to the new effect produced, by embodying his discovery in a machine, namely, the diminution of friction and heat, and not claiming the former effect of packing, his patent was good.[1]

[1] Newton *v.* Vaucher, 11 Law and Eq. R. 589, 592 (6 Exch. Rep. 859.) In this case, Mr. Baron Parke said: "The only question is, whether the plaintiff's invention is contained in the defendant's and is old, and that question must depend upon a comparison between the specifications of the plaintiff's patent of 1843, and of the defendant's of 1839. The specifications are to be read in connection with their titles. I will take the defendant's specification first, and see what his invention is. It is a patent for several machines; and his invention, as described in the specification (*inter alia*,) is as follows: 'My invention relates to a mode of packing parts of hydraulic engines or machines, or rendering the same fluid tight, which part of my invention applies to steam engines, and in those parts where moving surfaces require to be packed or rendered steam tight.' The defendant then proceeds to describe the mode of applying his invention; and it is to be observed, that in that part where he is speaking of the axis of the pump to be 'received into a suitable recess or bearing,' he does not apply his invention to the bearing; for the axis is not to rest upon soft, but upon hard metal. He then proceeds to remark that there is a material for packing that part where the axis works, the end of the axis or piston working in a groove, the object being to pack with metal in such a manner as to make all the parts water or fluid tight. He then proceeds to describe the metallic composition he uses for that purpose, to which we need not advert, as it is not material. Now, I think it is obvious that this invention consists in the application of soft metal, instead of elastic substances, which had been in use before, for the purpose of enabling the axis of the machine to work in a case, and to be water, air, or steam tight. Nothing is said upon the subject of friction, or upon the subject of bearings. After the date of the defendant's patent, it was discovered by the person from whom the plaintiff purchased his patent, that

§ 28. The doctrine in relation to utility being, in this country, that the subject-matter of a patent must not be

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soft metal could be used beneficially, not merely for the purpose of excluding air or water, but that it produced this remarkable effect, that, where there was pressure upon it, friction was in a great degree diminished. That probably arises, as my Brother Alderson has suggested, from the circumstance that the particles of the soft metal (which may be said to approach more nearly in their nature to those of a fluid,) have comparatively a more easy motion among themselves than those of a hard metal. If water could be confined in the same way as soft metal is, and the axis could be made to revolve in the water so confined, the invention might possibly answer as well. It was, however, discovered, that, by the adoption of soft metal, no heat or friction, comparatively speaking, would take place. Then the question is, whether the plaintiff's patent is for the application of that principle. Now, upon looking at his specification, which embodies a new principle in a new machine, it differs materially from the defendant's, which is for the purpose merely of packing; for in the plaintiff's invention it is essential that there should be not only the intervention of soft metal, but that there should also be a hard rim covered in part with that soft metal, or some other means to prevent the soft metal from expanding and getting out of its place. But any other hard rim covered with soft metal, or substances covered with soft metal, are part of that machine. That is no part of the defendant's invention. Therefore, I think, the discovery of the person under whom the plaintiff claims, is not merely a discovery of a new principle, but of a new principle embodied in a new machine. Then, that being so, if the plaintiff claims a patent for that new principle embodied in a new machine, and that only for the purpose of diminishing friction, and the application of it is only to cases where there is pressure as well as motion, that patent is perfectly good; but if he has also claimed in it the application of soft metal to all cases of stuffing, to include fluids of every description, his patent in that respect is for an old invention, and is void. The question is now reduced to that single point. I entertained some doubt during the argument upon the question, whether the plaintiff's patent is simply for the application of soft metal for the purpose of preventing friction where there is pressure and motion, or whether it is not also for the application of soft metal in cases of stuffing rods for the purpose of excluding air, water, or other fluid. If the determination of the question depended solely upon the specification, and the title of the patent were not read, I should have been inclined to think that the plaintiff claimed both; but if the specification and the title be read together, (and the specification is always taken to be an exemplification of the thing for which the patent is obtained,) it is clear that the plaintiff's claim is confined to bearings in cases where there is pressure with motion. [His

injurious or mischievous to society, or frivolous or insignificant, it follows, that every invention for which a patent is claimed must be, to a certain extent, beneficial to the community; it must be capable of use for some beneficial purpose; but, when this is the case, the degree of utility, whether larger or smaller, is not a subject for consideration in determining whether the invention will support a patent.[1] But it is obvious that the capability of use, for some beneficial purpose, is a material element in determining whether there is a sufficiency of invention to support a patent; the force of the word "useful," introduced into the statute in connection with the epithet "new," being to determine whether the subject-matter, upon the whole, is capable of use, for a purpose from which any advantage can be derived to the public. General rules will not decide this question in particular cases; but the circumstances of each case must be carefully examined, under the light of the principles on which general rules are founded.

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lordship read the title of the plaintiff's specification.] That appears to me to apply only to cases of bearings. I think the concluding part, "and also improvements in oiling or lubricating the same," is wholly immaterial. In the next place, we must see in what way he describes the machine for which the patent is granted. [His lordship read the greater part of the plaintiff's specification, and proceeded.] Now, had it not been for the title of this patent, by which the plaintiff appears to me to confine his invention to bearings, there would be strong reason to contend that he applied it also to cases in which rods or bars were to slide. But reading it in conjunction with the title, I think the plaintiff's patent does not extend so far, and consequently that it is not void upon that ground. The steam engine is the example of the case in which there is friction and pressure; but in the case of guide rods to locomotive steam engines, there is a bearing, and the instance he gives is that of a bearing. As it is my opinion that the plaintiff's patent is confined to these cases, no part of it includes an old invention, and, consequently the patent is good."

[1] Lowell *v.* Lewis, 1 Mass. 182; Bedford *v.* Hunt, Ib. 302: Kneass *v.* The Schuylkill Bank, 4 Wash. 9, 12; 2 Kent's Com. 369; Phillips on Patents, 136 – 144. Evidence that the invention of the defendant is better than that of the plaintiff is improper, except to show a substantive difference between the two inventions. Alden *v.* Dewey, 1 Story's R. 336.

§ 29. In considering the question of the novelty of an invention, Buller, J., laid down the rule, that when the novelty is disputed, the patentee is bound to offer some evidence of novelty. That is, he must show in what his invention consists, and that he produced the effect proposed by his patent, in the manner specified. Slight evidence of this, on his part, is sufficient, and it is then incumbent on the party alleging the want of novelty to show the defect.[1]

§ 30. Under our law, it would seem that the patent itself is *prima facie* evidence of the novelty of the invention. The act of 1836, § 6, requires the applicant to make oath that he verily believes himself to be the original and first inventor or discoverer of the thing, and that he does not know or believe that it was ever before known or used. Mr. Justice Story has held, that this oath, on a trial, is evidence in the cause of a *prima facie* character, and that it is the foundation of the *onus probandi* thrown upon the defendant.[2] The patent recites the oath, and thus the jury have cognizance of it; and, as the oath asserts that the patentee was the original and first inventor, it must be evidence of the novelty of the invention, if it is evidence of the fact that the patentee was the inventor.[3]

§ 31. In connection with the subject of novelty, it is further to be remembered, that our statute also requires that the subject-matter of a patent should not have been "known or used by others before the discovery or invention thereof" by the patentee.[4]

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[1] Turner *v.* Winter, 1 T. R. 602, 607.

[2] Alden *v.* Dewey, 1 Story's R. 336.

[3] Ibid. See also Stearns *v.* Barrett, 1 Mass. R. 175; Pennock *v.* Dialogue, 4 Wash, R. 538; Dixon *v.* Moyer, Ibid. 68; Phillips on Patents, 407.

[4] Act of 1836, § 6. Upon the former law, the words of which were "not known or used before the application," the Supreme Court of the United States put the construction which has been adopted by Congress in the sub-

§ 32. The time of the knowledge or use of an invention by others which is to vitiate a patent, is a very important point. In England, such knowledge, obtained at any time and in any mode, before the application for a patent, is sufficient to invalidate it. But in this country, it was settled as the true construction of the act of 1793, which used the words, "not known or used before the application," that these words, taken in connection with other provisions of the statute, meant that the invention should not have been

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sequent statute. "What, then, is the true meaning of the words 'not known or used before the application?' They cannot mean that the thing invented was not known or used before the application by the inventor himself, for that would be to prohibit him from the only means of obtaining a patent. The use, as well as the knowledge of his invention, must be indispensable to enable him to ascertain its competency to the end proposed, as well as to perfect its component parts. The words, then, to have any rational interpretation, must mean, not known or used by others before the application. But how known or used? If it were necessary, as it well might be, to employ others to assist in the original structure or use by the inventor himself; or, if before his application for a patent his invention should be pirated by another, or used without his consent, it can hardly be supposed that the legislature had within its contemplation such knowledge or use.

"We think, then, the true meaning must be, not known or used by the public before the application. And thus construed, there is much reason for the limitation thus imposed by the act. While one great object was, by holding out a reasonable reward to inventors, and giving them an exclusive right to their inventions for a limited period, to stimulate the efforts of genius; the main object was 'to promote the progress of science and useful arts;' and this could be done best by giving the public at large a right to make, construct, use, and vend the thing invented, at as early a period as possible, having a due regard to the rights of the inventor. If an inventor should be permitted to hold back from the knowledge of the public the secrets of his invention; if he should for a long period of years retain the monopoly, and make and sell his invention publicly, and thus gather the whole profits of it, relying upon his superior skill and knowledge of the structure; and then, and then only, when the danger of competition should force him to secure the exclusive right, he should be allowed to take out a patent, and thus exclude the public from any further use than what should be derived under it during his fourteen years; it would materially retard the progress of science and the useful arts, and give a premium to those who should be least prompt to communicate their discoveries." Pennock *v.* Dialogue, 2 Peter's S. C. R. 18, 19.

known or used before the discovery by the patentee.[1] This construction was afterwards adopted by congress, in the act of 1836, in so many terms.

§ 33. The word "others," though used in the plural in this statute, was used to denote that the use should be by some other person or persons than the patentee; and, therefore, the prior use by one person other than the patentee, is sufficient to show that the patentee was not the first inventor.[2]

§ 34. But the question still remains, what constitutes "use" and "knowledge," in the sense of the statute? Does the act simply mean, that the mere product of an art, or the mere existence of a machine, manufacture or composition of matter, if found in the possession of another, before the invention or discovery by the patentee, shall be sufficient to invalidate a patent? Or does it mean, that the art itself, the mode of constructing the machine, manufacture or composition of matter, must, at the time of the invention or discovery by the patentee, be a known thing, and in use by others than the patentee, in order to vitiate the patent? This presents the difficult question, what is to be the effect of a perfected invention, once in actual use, and subsequently abandoned or lost, upon the rights of an original inventor? Many arts, formerly known, have been wholly lost; the product of such arts may be still extant; and it is a most important inquiry, whether a new discoverer or inventor of an art of producing the same or similar things, can or cannot obtain a valid patent for his original independent discovery.

§ 35. In England, the statute of monopolies permitted the

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[1] Mellus *v.* Silsbee, 4 Mass. R. 108; Treadwell *v.* Bladen, 4 Wash. R. 707.

[2] Reed *v.* Cutter, 1 Story's R. 590. See also Bedford *v.* Hunt, 1 Mass. R. 302.

granting of a patent to "the true and first inventor of such manufacture, which others, at the time of making such letters-patent, shall not use." Our statute requires that the patentee shall be the "first inventor" of an art, machine, manufacture or composition of matter, not known or used by others before his discovery," &c. There is no very material difference between the English law and our own, therefore, except as to the time of the use by others, which, in England, extends down to the issuing of the letters-patent, but with us, is confined to the period of the patentee's invention or discovery. Now, it is not settled in England, that the prior knowledge of an invention, long lost sight of to the public, will vitiate subsequent letters-patent for the same invention. The doctrine in relation to prior use, in England, has been recently promulgated in the House of Lords, as follows: that, although the use of an invention may have been discontinued, if it has been once publicly used, and the recollection of it has not been wholly lost, it will be sufficient to invalidate a subsequent patent.[1] The subject-matter of the patent, in this case, was machinery; and the judgments delivered by their lordships, who spoke upon the case, seem to have proceeded upon the ground, that such prior use of a perfected invention, in case of machinery, negatives the proposition that the patentee was the "first inventor," as also the proposition that others had not previously used the same thing. At the same time, a strong intimation was given, that the prior use of an invention, if abandoned and lost sight of, so as not to be known to the public, presents a different question from an invention which has been merely disused, but the existence of which shows that the public have the knowledge and the means of making the same thing, already in their possession.[2]

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[1] The Household Company *v.* Neilson, Webs. Pat. Cas. 673, 709, 710, 716.

[2] The Lord Chancellor (Lyndhurst) said: "It must not be understood that your lordships, in the judgment you are about to pronounce, have given any decision upon this state of facts, namely, if an invention had been for-

§ 36. This distinction, if sound, presents two important inquiries: first, whether there is any class of cases where the mere previous existence of a thing, the art of making which has been lost, negatives the fact, that a subsequent discoverer of an art of making the same or a similar thing is the "first inventor," as those words are used in the statute; secondly, whether the use or knowledge intended by the statute, in cases of this kind, means the use or knowledge of the art of making the thing, or whether it means merely the use of the thing itself, or the knowledge that it exists, without the means of practising the invention itself. Both of these questions may arise, for instance, in reference to an article which has been patented in England, to wit, an encaustic tile, a description of which was well known in the middle ages, but the art of manufacturing which has been lost;[1] or in reference to such arts as that of staining glass.

§ 37. With regard to the first question, if the words "first inventor" are to be taken in their literal import, and without reference to the character of the subject-matter, whether it furnishes or does not furnish, on mere inspection or analysis, a knowledge of the means by which it is produced, — then, it is only necessary, in any case, to show that the thing itself has existed before in order to negative the claim, that the subsequent patentee is the "first inventor." This might be all that would be necessary in cases of machinery, because the machine is a collection of material parts in a certain combination, the existence of which, at any previous time, shows that it cannot have been again invented for the first time.

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merly used and abandoned many years ago, and the whole thing had been lost sight of. That is the state of facts not now before us. Therefore, it must not be understood that we have pronounced any opinion whatever upon that state of things. It is possible that an invention may have existed fifty years ago, and may have been entirely lost sight of, and not known to the public. What the effect of this state of things might be is not necessary for us to pronounce upon." Ib. 717.

[1] Wright's Patent, Webs. Pat. Cas. 736.

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[1] Wright's Patent, Webs. Pat. Cas. 786.

prior knowledge of its existence, is, in all cases, an answer to the allegation of the patentee, that he is the first inventor or discoverer, without showing that his process is the same as that by which the thing was formerly produced, then, there is no occasion to inquire further. But if, on the contrary, those words are to be taken with reference to the character of the subject-matter, in each case, then it is apparent that there may be cases where, as in such arts as those above referred to, the invention or discovery is not, strictly speaking, the thing itself, but a process of making that thing. The words of the statute must be taken with separate application to each of the subjects recited as the proper subject-matters of a patent. The language is, that "he is the original and first inventor of the art, machine, composition, &c., and that he does not know or believe that the same was ever before known or used;"[1] and in the subsequent clause, the "thing patented" is declared to be subject to the defence, that the patentee was *not* "the original and first inventor or discoverer" or that "it" had been described in some public work, or had been in public use.[2] The "thing patented" is the antecedent of "it," and in the case of an art, this may be, not the product itself, but the process of producing it; and where it cannot be shown that the process invented by the patentee has been "known" or "used" before, the mere production in evidence of a similar manufacture, produced at a former period by an unknown art, does not negative the allegation, that the patentee invented or discovered the art by which he has produced that manufacture.[3]

§ 40. In England the courts have so construed the expression, "first inventor," as to admit of a valid patent in a variety of cases, where the patentee was not absolutely the first person to make or discover the thing; as where it had been made previously by another person who had concealed

[1] § 6. [2] § 15.

[3] See a learned note on the bearing of the English statute on this question, by Mr. Webster, Pat. Cas. 718, 719, 720.

it from every one else;[1] and generally, in England, the question whether the patentee is the true and first inventor or not, depends on whether he borrowed the invention from a source open to the public.[2] And since the first edition of this work was published, a decision has been made in the Supreme Court of the United States, which adopts a similar construction, for our statute. A person had made and used an article similar to the one which was afterwards patented, but had not made his discovery public, using it simply for his own private purpose, and without having tested it so as to discover its usefulness; and it had then been finally forgotten and abandoned: it was held that under such circumstances, the patentee was to be regarded as the "first inventor."[3]

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[1] Dolland's Case, 2 H. Blackst. 470, 487. Davies's Pat. Cas. 172.

[2] Walton *v.* Potter, Webs. Pat. Cas. 592.

[3] Gayler *v.* Wilder, 10 Howard, 477. In this case, Mr. Ch. Justice Taney delivering the opinion of a majority of the Court, said: "It appears that James Conner, who carried on the business of a stereotype founder in the city of New York, made a safe for his own use, between the years 1829 and 1832, for the protection of his papers against fire; and continued to use it until 1838, when it passed into other hands. It was kept in his counting-room and known to the persons engaged in the foundry; and after it passed out of his hands, he used others of a different construction.

It does not appear what became of this safe afterwards. And there is nothing in the testimony from which it can be inferred that its mode of construction was known to the person into whose possession it fell, or that any value was attached to it as a place of security for papers against fire; or that it was ever used for that purpose.

Upon these facts the court instructed the jury, 'that if Conner had not made his discovery public, but had used it simply for his own private purpose, and it had been finally forgotten or abandoned, such a discovery and use would be no obstacle to the taking out of a patent by Fitzgerald or those claiming under him, if he be an original, though not the first, inventor or discoverer.'

The instruction assumes that the jury might find from the evidence that Conner's safe was substantially the same with that of Fitzgerald, and also prior in time. And if the fact was so, the question then was, whether the patentee was 'the original and first inventor or discoverer,' within the meaning of the act of Congress.

The act of 1836, ch. 357, § 6, authorizes a patent where the party has dis-

§ 41. We have already seen, that there are two issues, with respect to novelty; one, whether the patentee is the first in-

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covered or invented a new and useful improvement, 'not known or used by others before his discovery or invention.' And the 15th section provides that, if it appears on the trial of an action brought for the infringement of a patent that the patentee 'was not the original and first inventor or discoverer of the thing patented,' the verdict shall be for the defendant.

Upon a literal construction of these particular words, the patentee in this case certainly was not the original and first inventor or discoverer, if the Conner safe was the same with his, and preceded his discovery.

But we do not think that this construction would carry into effect the intention of the legislature. It is not by detached words and phrases that a statute ought to be expounded. The whole act must be taken together, and a fair interpretation given to it, neither extending nor restricting it beyond the legitimate import of its language, and its obvious policy and object. And in the 15th section, after making the provision above mentioned, there is a further provision, that, if it shall appear that the patentee at the time of his application for the patent believed himself to be the first inventor, the patent shall not be void on account of the invention or discovery having been known or used in any foreign country, it not appearing that it had been before patented or described in any printed publication.

In the case thus provided for, the party who invents is not, strictly speaking, the first and original inventor. The law assumes that the improvement may have been known and used before his discovery. Yet his patent is valid if he discovered it by the efforts of his own genius, and believed himself to be the original inventor. The clause in question qualifies the words before used, and shows that by knowledge and use the legislature meant knowledge and use existing in a manner accessible to the public. If the foreign invention had been printed or patented, it was already given to the world and open to the people of this country, as well as of others, upon reasonable inquiry. They would, therefore, derive no advantage from the invention here. It would confer no benefit upon the community, and the inventor therefore is not considered to be entitled to the reward. But if the foreign discovery is not patented, nor described in any printed publication, it might be known and used in remote places for ages, and the people of this country be unable to profit by it. The means of obtaining knowledge would not be within their reach; and, as far as their interest is concerned, it would be the same thing as if the improvement had never been discovered. It is the inventor here that brings it to them, and places it in their possession. And as he does this by the effort of his own genius, the law regards him as the first and original inventor, and protects his patent, although the improvement had in fact been invented before, and used by others.

ventor; the other, whether the invention, at the time of his application, be new as to public use and exercise. These

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So, too, as to the lost arts. It is well known that centuries ago discoveries were made in certain arts, the fruits of which have come down to us, but the means by which the work was accomplished are at this day unknown. The knowledge has been lost for ages. Yet it would hardly be doubted, if any one now discovered an art thus lost, and it was a useful improvement, that, upon a fair construction of the act of Congress, he would be entitled to a patent. Yet he would not literally be the first and original inventor. But he would be the first to confer on the public the benefit of the invention. He would discover what is unknown, and communicate knowledge which the public had not the means of obtaining without his invention.

Upon the same principle and upon the same rule of construction, we think that Fitzgerald must be regarded as the first and original inventor of the safe in question. The case as to this point admits, that, although Conner's safe had been kept and used for years, yet no test had been applied to it, and its capacity for resisting heat was not known; there was no evidence to show that any particular value was attached to it after it passed from his possession, or that it was ever afterwards used as a place of security for papers; and it appeared that he himself did not attempt to make another like the one he is supposed to have invented, but used a different one. And upon this state of the evidence the court put it to the jury to say, whether this safe had been finally forgotten or abandoned before Fitzgerald's invention, and whether he was the original inventor of the safe for which he obtained the patent; directing them, if they found these two facts, that their verdict must be for the plaintiff. We think there is no error in this instruction. For if the Conner safe had passed away from the memory of Conner himself, and of those who had seen it, and the safe itself had disappeared, the knowledge of the improvement was as completely lost as if it had never been discovered. The public could derive no benefit from it until it was discovered by another inventor. And if Fitzgerald made his discovery by his own efforts, without any knowledge of Conner's, he invented an improvement that was then new, and at that time unknown; and it was not the less new and unknown because Conner's safe was recalled to his memory by the success of Fitzgerald's.

We do not understand the Circuit Court to have said that the omission of Conner to try the value of his safe by proper tests would deprive it of its priority; nor his omission to bring it into public use. He might have omitted both, and also abandoned its use, and been ignorant of the extent of its value; yet, if it was the same with Fitzgerald's, the latter would not, upon such grounds, be entitled to a patent, provided Conner's safe and its

issues may be involved together, because if the last is negatived, it may be negatived by evidence which shows that the patentee was not the first inventor. But in point of law and fact, these are distinct issues. The patentee may have been the first inventor, and yet he may have allowed the invention to get into public use, and exercise, before his application; or the invention may never have been in public use, and yet the patentee may not be the first inventor, by reason of his having learned it from some one else, or from some published work, or from some other source open to the public.

§ 42. It is an important question of construction, therefore, to determine when a claimant is the first inventor, in the sense of the statute. This depends upon the nature and extent of the knowledge which any other person may have had of the subject of the patent; and upon this inquiry, we may, perhaps, usefully follow the light of English authorities as well as our own.

§ 43. It is not sufficient to defeat a patent, already issued,

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mode of construction were still in the memory of Conner before they were recalled by Fitzgerald's patent.

The circumstances above mentioned, referred to in the opinion of the Circuit Court, appear to have been introduced as evidence tending to prove that the Conner safe might have been finally forgotten, and upon which this hypothetical instruction was given. Whether this evidence was sufficient for that purpose or not, was a question for the jury, and the court left it to them. And if the jury found the fact to be so, and that Fitzgerald again discovered it, we regard him as standing upon the same ground with the discoverer of a lost art, or an unpatented and unpublished foreign invention, and like him entitled to a patent. For there was no existing and living knowledge of this improvement, or of its former use, at the time he made the discovery. And whatever benefit any individual may derive from it in the safety of his papers, he owes entirely to the genius and exertions of Fitzgerald.

Upon the whole, therefore, we think there is no error in the opinion of the Circuit Court, and the judgment is therefore affirmed."

that another person has conceived the possibility of effecting what the patentee has actually accomplished. To constitute a prior invention, the party, alleged to have made it, must have proceeded so far as to have entitled himself to a patent, in case he had made an application; or, in other words, he must have reduced his idea to practice, and embodied it in some distinct form.[1] It is true, that in a race of diligence between two independent inventors, our law provides for the priority of conception, by allowing the one who first invents to obtain the patent, if he was using reasonable diligence in adapting and perfecting his invention, although a second inventor has, in fact, first perfected the invention, and reduced it to practice.[2] But where a patent has been granted to a patentee, who did not surreptitiously obtain his knowledge from a prior inventor, who was using reasonable diligence to perfect and adapt the invention, in order to defeat it on the ground that the patentee was not the first inventor, some previous inventor must not only have had the idea, but must also have carried the idea into practical operation; for he is entitled to a patent, who, being an original inventor, has first perfected and adapted the invention to actual use.[3]

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1 Reed *v.* Cutter, 1 Story's R. 590.

2 Act of 1836, § 15; Reed *v.* Cutter, 1 Story's R. 590.

3 Reed v. Cutter, *ut supra.* Woodcock *v.* Parker, 1 Gallison's R. 438, 439. In Gibson *v.* Brand, Webs. Pat. Cas. 628, Sir N. C. Tindall, C. J., said to the jury, "It is quite clear, that if, on the evidence you have heard, you are satisfied that this which is alleged to be a discovery by the plaintiffs, had been publicly known and practised in England, there is an end to the validity of the patent. It would not be sufficient to destroy the patent to show that learned persons in their studies had foreseen, or had found out this discovery, that is afterwards made public, or that a man in his private warehouse had, by various experiments, endeavored to discover it and failed, and had given it up. But if you perceive, on the evidence, that the thing which is now sought to be protected by the patent has been used, and for a considerable period, and used so far to the benefit of the public, as to be sold to any body who thought proper to purchase it of those who made it, then it becomes a material question, whether such mode of user is not, in your judgment, a public using of the article, of the process, or of the invention, before

§ 44. But when may a prior invention be said to have been perfected and adapted to actual use? Does the law furnish any test by which this question can be answered? In the first place, it is clear, that mere trials and experiments, though continued up to the date of a patent, will not vitiate the grant, if the patentee had no knowledge of those trials and experiments; because the first perfected invention, if original, is entitled to the patent.[1] In the second place, there may often be a very satisfactory test, which will determine whether the proceedings of an alleged prior inventor were any thing more than trials and experiments, by ascertaining whether he at any time, before the date of the patent, abandoned the pursuit of the object at which he was aiming. If he did so, the abandonment has been said to furnish a presumption that his proceedings rested in experiment and trial alone.[2]

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the letters-patent were granted, and therefore you will apply the evidence, when you come to it, subject to such an explanation, — not giving a force or efficacy to any attempts that have been made towards the discovery which the plaintiffs set up, but which have failed and been abandoned, and rested indeed only in experiment, but at the same time giving full effect to such evidence as has been brought before you, that tends to show that, by other persons, on various occasions, the article has been made, and the process been pursued, which is now sought to be protected, and has been sold to such of the public as have thought proper to come forward and purchase."

[1] The Household Company *v.* Neilson, Webs. Pat. Cas. 708.

[2] In the case last cited, Lord Brougham said, "If an invention has not been completed, but if it all rests in experiment and trial, then it is a most material circumstance as a test, whether any given act of a party, other than the invention, was trial or complete invention; it is a most salutary and important test to apply with a view to ascertain that, to see whether he abandoned or continued it. If he abandoned it, if he gave it up altogether, and for twenty or thirty years did nothing, it is a very strong presumption that it was only experimental — not an invention completed. But suppose it was complete, and suppose it is admitted not to have been a trial — suppose it is allowed to have been an invention executed, if I may so speak, not merely executory, or not merely in the progress of invention, but an invention completed, then it is one of the greatest errors that can be committed, in point of law, to say with respect to such an invention as that, it signifies one

§ 45. But if, on the contrary, his experiments and trials were continued, or if there is not satisfactory evidence of an abandonment of the object, then it becomes a question of fact, depending on the nature of the proposed invention, the character of the experiments, and the results attained, to determine whether the party had really accomplished the same substantial result as that described in the patent.[1]

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rush whether it was completely abandoned, or whether it was continued to be used down to the very date of the patent. Provided it was invented and publicly used at the time, twenty or thirty years ago, in this case forty years ago, it is perfectly immaterial, not immaterial to the second question, the second condition, namely, whether it was used or not at the time of the granting of the patent, but totally immaterial to the other question, which is equally necessary to be ascertained in the inventor's favor, whether or not he was the first and true inventor? — for he must be the first and true inventor, as well as the only person using it at the time, otherwise he is not entitled to the letters-patent." Webs. Pat. Cas. 713. In Jones *v.* Pearce, Webs. Pat. Cas. 124, Patteson, J., instructed the jury as follows: "If on the whole of this evidence, either on the one side or the other, it appeared this wheel, constructed by Mr. Strutt's order in 1814, was a wheel on the same principles, and in substance the same wheel as the other for which the plaintiff had taken out his patent, and that was used openly in public, so that every body might see it, and had continued to use the same thing up to the time of taking out the patent, undoubtedly then that would be a ground to say that the plaintiff's invention is not new, and if it is not new, of course his patent is bad, and he cannot recover in this action; but if, on the other hand, you are of opinion that Mr. Strutt's was an experiment, and that he found it did not answer, and ceased to use it altogether, and abandoned it as useless, and nobody else followed it up, and that the plaintiff's invention, which came afterwards, was his own invention, and remedied the defects, if I may so say, although he knew nothing of Mr. Strutt's wheel, he remedied the defects of Mr. Strutt's wheel, then there is no reason for saying the plaintiff's patent is not good; it depends entirely upon what is your opinion upon the evidence with respect to that, because, supposing you are of opinion that it is a new invention of the plaintiff's, the patent is then good; then the only remaining question would be, whether the defendant has or not infringed the patent."

[1] In Galloway *v.* Bleaden, Webs. Pat. Cas. 521, 526, Sir N. C. Tindall, C. J., said to the jury, "The question you are to determine is, whether on the evidence the thing itself was complete, so as to be used, or whether

§ 46. But although the subject of every patent must have been "invented or discovered" by the party claiming to be the inventor or discoverer, still, as suggestions and hints may often have been made use of by a man of the most original genius, in the production of inventions, it becomes necessary to inquire who is to be regarded as the inventor or discoverer, in the sense of being entitled to a patent for the thing invented or discovered.

§ 47. The intellectual production, or that which, when perfected, constitutes the thing invented, differing from all other things by some substantial peculiarity which gives it a distinct character, is what the law means to protect with an exclusive privilege. It is clear, therefore, that many sugges-

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only a series of experiments were going on. . . . . That there had been many experiments made upon the same line, and almost tending, if not entirely, to the same result, is clear from the testimony you have heard, and that these experiments were known to various persons; but if they rested in experiment only, and had not attained the object for which the patent was taken out, mere experiment, afterwards supposed by the parties to be fruitless, and abandoned because they had not brought it to a complete result, that will not prevent a more successful competitor, who may avail himself, as far as his predecessors have gone, of their discoveries, and add the last link of improvements in bringing it to perfection." So also in Bedford *v.* Hunt, 1 Mas. 302, 305, Mr. Justice Story said, "If it were the mere speculation of a philosopher or a mechanician, which had never been tried by the test of experience, and never put into actual operation by him, the law would not deprive a subsequent inventor, who had employed his labor and his talents in putting it into practice, of the reward due to his ingenuity and enterprise. But if the first inventor reduced his theory to practice, and put his machine or other invention into use, the law never could intend that the greater or less use in which it might be, or the more or less widely the knowledge of its existence might circulate, should constitute the criterion by which to decide upon the validity of any subsequent patent for the same invention. I hold it therefore to be the true interpretation of this part of the statute, that any patent may be defeated by showing, that the thing secured by the patent, had been discovered and put in actual use, prior to the discovery of the patentee, however limited the use or the knowledge of the prior discovery might have been."

tions may have been made, or many hints taken from others, without invalidating the claim of a party to be considered as the author of the invention; since it is not the abstract suggestion or inchoate idea, which the law intends to treat as the subject of the patent, but the perfected invention, in which the idea is applied to a practical purpose and made capable of useful operation. There may be a long interval between the first suggestion of an idea, which leads to or forms the germ of a discovery, and the actual production of that discovery, in all its peculiarities, constituting in its perfect state the thing invented. This interval must, in many cases, be occupied by the exercise of inventive power, of the highest description, on the part of him who has taken the first suggestion from another, by bringing it to perfection, or developing and reducing it to practical application; and the extent to which this interval is so occupied will determine whether the person originally suggesting, or the person subsequently applying an idea, is entitled to be regarded as the inventor.

§ 48. Thus it has been held that in order to invalidate a patent, on the ground that the patentee received from another person the suggestion of the invention, it is not enough to show that the naked idea, or bare possibility of accomplishing the object was suggested. On the other hand, it is not necessary that the minutiæ of the invention should have been communicated by another person. But it must appear that the invention was substantially communicated to the patentee, so that without more inventive power he could have applied it in practice.[1] So too, it has been held, that although others may have previously had the idea of a machine and made some experiments towards putting it in practice, the person who first brought the machine to perfection and made it

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[1] Alden v. Dewey, 1 Story's R. 336.

capable of useful operation, is the inventor, and is entitled to the patent.[1]

§ 49. The extent to which a person may avail himself of the suggestions or inventive faculties, or manual dexterity of a servant, and afterwards claim to be the inventor, does not perhaps admit of being stated in any precise general proposition. It depends upon the relative situations of the parties, the nature of the employment, and the fact of the employer having planned or conceived the main idea of the invention. The person who suggests the principle of an invention is the inventor; and if this be the servant, the employer cannot claim the invention as the author of it, although he may have taken the servant into his employ for the express purpose.[2]

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[1] Washburn *v.* Gould, 3 Story's R. 122, 123. In this case, Mr. Justice Story said, "The law is, that whoever perfects a machine, is entitled to a patent, and is the real inventor, although others may previously have had the idea, and made some experiments towards putting it in practice. In England the law goes even so far as to grant such an one the patent, although the antecedent experiments of others were known to and used by him in perfecting his machine. The law in this country has not gone quite so far, but I do not mean to say that there would be any difficulty in going to that extent. At any rate, he is the inventor and is entitled to the patent, who first brought the machine to perfection and made it capable of useful operation." See also Pennock *v.* Dialogue, 4 Wash. 578. In Tenant's case, Dav. Pat. Cases, 429, (cited in Hill *v.* Thompson, 8 Taunt. 395,) there was evidence that a chemist had suggested to the patentee the basis of the improvement in question. The patent was declared invalid; but it appears to have been mainly on the ground that the improvement had been in actual use for six years before the patent. See 8 Taunt. 395, and 2 Evans's Statutes, p. 6, note; Webs. Pat. Cas. 125, note.

[2] Minter *v.* Wells, Webs. Pat. Cas. 132. In this case, one of the questions submitted to the jury was, whether the patentee, or another person, named Sutton, was the inventor. Alderson, B., instructed the jury as follows: "If Sutton suggested the principle to Mr. Minter, (the patentee,) then he would be the inventor. If on the other hand Mr. Minter suggested the principle to Sutton, and Sutton was assisting him, then Mr. Minter would be the first and true inventor, and Sutton would be a machine, so to

But if the employer conceives the result embraced in the invention, or the general idea of a machine upon a particular principle, and in order to carry his conception into effect, it is necessary to employ manual dexterity or even inventive skill, in the mechanical details and arrangements requisite for carrying out the original conception, in such cases the employer will be the inventor, and the servant will be a mere instrument, through which he realizes his idea.[1] The adoption by an inventor, of a suggestion made in the course of experi-

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speak, which Mr. Minter uses for the purpose of enabling him to carry his original conception into effect." In Arkwright's case, with respect to a particular roller, part of the machinery, the evidence was, that Arkwright had been told of it by one Kay; that, being satisfied of its value he took Kay for a servant, kept him for two years, employed him to make models, and afterwards claiming it as his invention, made it the foundation of a patent. The same fact was proved as to a crank, which had been discovered by a person of the name of Hargrave, which also had been adopted by Arkwright. This evidence was fatal to the patentee's claim of originality in respect of both these inventions. The King *v.* Arkwright, Davies's Pat. Cas. 61; Webs. Pat. Cas. 64. See also Hill *v.* Thompson, 8 Taunt. 375, 395; Barker *v.* Harris, Webs. Pat. Cas. 126.

[1] Ibid. See also Bloxam *v.* Elsee, 1 Car. & P. 567; Dav. Pat. Cas. 132. It was objected in this case that parts of the improvements in Foudrinier's paper machine were the inventions of Mr. Donkin, who proved that when he made those improvements he was employed as an engineer, for the purpose of bringing the machine to perfection, and was paid for so doing, and that he was acting as the servant of the inventor of the machine, for the purpose of suggesting those improvements. He did not discover the principle of the machine, nor invent the important movements of it. The patent was not disturbed on that ground. Godson on Patents, 27, 28; Hindmarch on Patents, 25, 26. Upon the same principle, the Court of Common Pleas, in England, held that a calico-printer is entitled, after having discharged his head color-man, to the book in which that servant has entered the processes for mixing the colors, during his service, although many of the processes were the invention of the servant himself. Makepeace *v.* Jackson, 4 Taunt. 770. — Mr. Phillips, in his valuable work on Patents, states the doctrine in regard to suggestions thus: "It is not a ground of defence that the patentee availed himself of the suggestions of another, unless they go to an essential part of the invention:" — p. 419, edition of 1837. But it seems to be capable of a more precise statement.

ments, of something calculated more easily to carry his conceptions into effect, does not affect the validity of the patent.[1]

§ 50. There may be a class of cases, where the patentee having employed and paid for the inventive faculty of another, may claim and hold a patent for the invention, not as the inventor, but as the assignee of the inventor. But this class of cases belongs to the subject of assignments of patents, and is distinguishable from the general principles which determine who is the actual inventor.

§ 51. With regard to the use of the antecedent experiments of others, Mr. Justice Story has intimated that our law would go as far as the English doctrine, which allows an inventor

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[1] Allen *v.* Rawson, 1 M. G. & Scott, 551, 574, Tindall, C. J. "The real question is, whether or not the improvements suggested by *Shaw* and by *Milner* were of such a serious and important character as to preclude their adoption by *Williams* as parts of his invention. The rule was granted simply upon the objection that the patentee had claimed as a part of his invention, the compound apron which was alleged to be the invention of *Shaw*, and the longitudinal guides invented by *Milner*. And the question is, whether, having so claimed these two things, they form any important parts of the invention for which the patent has been obtained. The main object and design of the patentee were the obtaining a long, even and uniform bat, suitable to be made into commercial ends or pieces of cloth. The patentee, in his specification, after describing the double or compound revolving apron, thus refers to that which is called *Shaw's* suggestion: — "As in many manufacturing premises, these two long extended aprons could not be so conveniently used, for want of room, I sometimes extend them backwards and forwards, and even with several aprons, as shown (in the drawings) at figures 6, 7, and 8, or perpendicularly up and down, where only two are required, as shown at figures 9 and 10." This is, obviously, a mere matter of convenience suggested to and adopted by the inventor. It would be difficult to define how far the suggestions of a workman employed in the construction of a machine are to be considered as distinct inventions by him, so as to avoid a patent incorporating them, taken out by his employer. Each case must depend upon its own merits. But when we see that the principle and object of the invention are complete without it, I think it is too much that a suggestion of a workman, employed in the course of the experiments, of

to know and use the antecedent experiments of others in perfecting his invention.[1] The English law is, that experiment not brought to completion, or conducted to a full result, will not vitiate the patent of a more successful person in the same line, though he avails himself of the knowledge gained by the experiments of his predecessors.[2]

§ 52. The Statute of 1836 also requires that the subject of the patent should not have been, at the time of the application, in public use or on sale, with the consent or allowance of the patentee, as the inventor or discoverer.[3]

§ 53. The phrase "public use," means use in public, and not use by the public;[4] so that, under this act, if there had

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something calculated more easily to carry into effect the conceptions of the inventor, should render the whole patent void. It seems to me, that this was a matter much too trivial, and too far removed from interference with the principle of the invention, to produce the effect which has been contended for."

[1] Washburn *v.* Gould, *ut supra* note, p. 41, 42.

[2] In Galloway *v.* Bleaden, Webs. Pat. Cas. 525, Sir N. C. Tindall, C. J., stated the law to be that "a mere experiment, or a mere course of experiments, for the purpose of producing a result which is not brought to its completion, but begins and ends in uncertain experiments — that is not such an invention, as should prevent another person, who is more successful, or pursues with greater industry the chain in the line that has been laid out for him by the preceding inventor, from availing himself of it and having the benefit of it."

[3] Act of 1836, § 6. The law had previously been settled to be, that the first inventor cannot acquire a good title to a patent, if he suffers the thing invented to go into public use, or be publicly sold for use, before he makes application for a patent. Such voluntary act or acquiescence in the public sale or use is an abandonment of his right, or rather creates a disability to comply with the terms and conditions of the law; on which alone the Secretary of State is authorized to grant a patent. Pennock *v.* Dialogue, 2 Peters, 16.

[4] "The public use and exercise of an invention means a use in public, not by the public." Per Lord Abinger, in Carpenter *v.* Smith, 9 Mees. & Wels. 300. Webs. Pat. Cas. 530, 534. I possess a MS. note by Mr. Justice

been a use in public by any person, with the consent or allowance of the patentee, the patent will be defeated.

§ 54. But then it is necessary that the machine, or other subject of invention, should have been completed, and should have been used in public substantially as it was patented, with the consent of the patentee.[1]

§ 55. As the law stood, therefore, prior to the year 1839, an invention might be allowed to be in public use by the patentee, before his application, in two modes. He might allow of its use in public by an individual or individuals, or he might allow the whole public to use it, by having abandoned or dedicated his invention to the public before his application. In either case, his patent would have been void.

§ 56. With regard to the first mode, where the use had been permitted to an individual, it has been held that such use must have been unlimited in time, extent, or object. If allowed for a short or definite period, as an act of kindness, or as a means of continuing experiments and testing the utility of the invention it would not have had the effect of defeating the patent under the act of 1836.[2]

Story to the case of Wyeth *v.* Stone, 1 Story's R. 273, referring to this definition of public use with approbation. The use of a lock, in such a situation that the public might see it, is a public use and exercise of the invention. Carpenter *v.* Smith, *ut supra*. The manufacture and sale, without secrecy, by a workman, of several dozens of locks, according to a model which is retained, is a public use and exercise of the invention. Ibid. 540. The publicly making and selling an article, though there may be no demand or use for it at the time, will vitiate subsequent letters-patent. Losh *v.* Hague, Webs. Pat. Cas. 205. The question of public use is for the jury; as whether the instances adduced show a manufacture to have been in public use, or only that various experiments have been made and abandoned." Elliott *v.* Aston, Webs. Pat. Cas. 224. Cornish *v.* Keene, Ibid. 519.

[1] Wyeth *v.* Stone, 1 Story's R. 280, 281.

[2] Ibid. Ryan *v.* Goodwin, 3 Sumner's R. 514, 518. In this last case Mr.

§ 57. With regard to the second mode, a dedication or abandonment of the invention to the public, before the application for a patent, it has been said that the circumstances ought to be very clear and cogent, before the court would be justified in adopting a conclusion so subversive of private rights, when the party has subsequently taken out a patent.[1] Still, although the inventor's acts are to be construed liberally, unequivocal evidence that he has dedicated his invention to the public will deprive him of his right, upon the authority of previous decisions as well as that of the recent statute presently to be cited.[2]

Justice Story said: — "It is clear by our law, whatever it may be by the law of England, that the public use or sale of an invention, in order to deprive the inventor of his right to a patent, must be a public use or sale by others, with his knowledge and consent, before his application therefor. If the use or sale is without such knowledge or consent, or if the use be merely experimental, to ascertain the value or utility or success of the invention, by putting it in practice, that is not such a use as will deprive the inventor of his title. Our law also requires that the use or sale should not only be with the knowledge and consent of the inventor, but that it should be before his application for a patent. A sale or use of it, with such knowledge or consent, in the intermediate time between the application for a patent and a grant thereof, has no such effect. It furnishes no foundation to presume that the inventor means to abandon his invention to the public; and does not, because it is not within the words of our act, create any statute disability to assert his right to a patent."

[1] Wyeth *v.* Stone, *ut supra.*

[2] Mellus *v.* Silsbee, 4 Mass. 111. In this case Mr. Justice Story said: — "If the inventor dedicates his invention to the public, he cannot afterwards resume it, or claim an exclusive right in it. It is like the dedication of a public way, or other public easement. The question in such cases is a question of fact. Has he so dedicated it? I agree his acts are to be construed liberally; that he is not to be estopped by licensing a few persons to use his invention to ascertain its utility, or by any such acts of peculiar indulgence and use as may fairly consist with the clear intention to hold the exclusive privilege. But if the inventor proclaims his intention to all the world, and suffers it to go into general and public use, without objection; if he asserts no exclusive right for years, with a full knowledge that the public are led by it to general use, such conduct, in my judgment, amounts to strong proof

§ 58. Prior to the year 1839, therefore, if the patentee allowed not merely the public use, but even a free individual use of his invention, before he applied for a patent, his patent would be invalid. But by the Act of 1839, ch. 88, § 7, this inconvenience was remedied by the enactment, "that every person or corporation, who has or shall have purchased or

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that he waives the exclusive right, and dedicates the invention to the world. After such conduct, the attempt to regain the exclusive right and secure it by a patent would operate as a fraud upon the public; and would hold out inducements to incur heavy expenses in putting inventions into operation, of which the party might be deprived at the mere will or caprice of the inventor." So, also, Mr. Justice Washington held: — "That if an inventor makes his discovery public, looks on, and permits others freely to use it, without objection, or assertion of claim to the invention, of which the public might take notice, he abandons the inchoate right to the exclusive use of the invention, to which a patent would have entitled him had it been applied for before such use; and we think it makes no difference in the principle, that the article so publicly used and afterwards patented, was made by a particular individual, who did so by the private permission of the inventor. As long as an inventor keeps to himself the subject of his discovery, the public cannot be injured; and even if it be made public, but accompanied by an assertion of the inventor's claim to the discovery, those who should make or use the subject of the invention would, at least, be put upon their guard. But if the public, with the knowledge and the tacit consent of the inventor, is permitted to use the invention without opposition, it is a fraud upon that public afterwards to take out a patent. It is possible that the inventor may not have intended to give the benefit of his discovery to the public; and may have supposed that, by giving permission to a particular individual to construct for others the thing patented, he could not be presumed to have done so. But it is not a question of intention which is involved in the principle which we have laid down, but of legal inference, resulting from the conduct of the inventor, and affecting the interests of the public. It is for the jury to say, whether the evidence brought this case within the principle which has been stated." 4 Wash. 544. The question which generally arises on trials is a question of fact rather than of law; whether the acts or acquiescence of a party furnish, in a given case, satisfactory proof of an abandonment, or dedication of an invention to the public. See Pennock *v.* Dialogue, 2 Peters, 16. Grant *v.* Raymond, 6 Pet. 248, 249. Shaw *v.* Cooper, 7 Pet. 313 – 323. McClung *v.* Kingsland, 1 Howard, 202, 207.

constructed any newly invented machine, manufacture, or composition of matter, prior to the application by the inventor or discoverer for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter, so made or purchased, without liability therefor to the inventor, or any other person interested in such invention; and no patent shall be held to be invalid by reason of such purchase, sale, or use, prior to the application for a patent aforesaid, except on proof of abandonment of such invention to the public; or that such purchase, sale, or prior use, has been for more than two years prior to such application for a patent."[1]

§ 59. This enactment relieved the patentee from the effect of the former laws, and the construction that had been put upon them by the courts, and put the person who, by the consent and allowance of the inventor, had had a prior use of the invention, on the same footing as if he had a special license from the inventor to use his invention; and at the same time, the patent is valid, after it is issued, against all persons, except such licensee, who will continue to have the right to use the invention.[2] Inventors may now, therefore, permit the use of their inventions, by individuals, for a period of two years, prior to the application for a patent, and still obtain a valid patent, notwithstanding such use. But if the use thus allowed extends over a period of more than two years prior to the application, or if it amounts to an abandonment of an invention to the public, whether for a longer or a shorter period, the patent will be invalid.

§ 60. But to entitle a person to claim the benefit of this statute, he must be a person who is a purchaser, or who has

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[1] The words, "any newly invented machine, manufacture, or composition of matter," in this statute, have the same meaning as "invention," or "thing patented." McClurg *v.* Kingsland, *ut supra.*

[2] McClurg *v.* Kingsland, *ut supra.*

used the patented invention before the patent was issued, by a license or grant, or by the consent of the inventor, and not be a purchaser under a mere wrong-doer.[1] What will amount

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1 Pierson *v.* The Eagle Screw Company, 3 Story's R. 402, 405. In this case Mr. Justice Story said: "For the defendants the argument is, that the Eagle Screw Company had a right to use the machines purchased by them from Read before Crum's patent was obtained, although Crum was the prior and true inventor, and patentee under the 7th section of the Patent Act of 1839, ch. 88; and great reliance is placed upon the case of McClurg *v.* Kingsland, (1 How. S. C. R. 202.) In my opinion, neither the Act of Congress, nor the case of McClurg *v.* Kingsland justifies such a doctrine. Supposing the argument to be well founded, what would be the legal result? Why, that a mere wrong-doer, who by fraud or artifice, or gross misconduct, had gotten knowledge of the patentee's invention before he could obtain his patent, without any *laches* on his part, could confer upon a purchaser under him — *bonâ fide* and without notice — a title to the patented machine, which he himself could not exercise or possess. Certainly there is no ground to say, that a person who pirates the invention of any party prior in point of time and right, can make any valid claim thereto against the prior and true inventor. How then can he confer on others a title, which he himself does not possess? Upon general principles, the assignee can ordinarily claim no more than his assignor can lawfully grant.

But it is said, that the 7th section of the Act of 1839, ch. 88, declares, "That every person or corporation, who has or shall have purchased or constructed any newly invented machine, manufacture or composition of matter, prior to the application by the inventor or discoverer for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture or composition of matter, so made or purchased, without liability therefor to the inventor, or any other person interested in the invention; and no patent shall be held to be invalid by reason of such purchase, sale or use, prior to the application for a patent as aforesaid, except on proof of abandonment of such invention to the public, or that such purchase, sale or prior use, has been for more than two years prior to such application for a patent." Certainly, the language in the first clause of this section is very general, not to say loose, in its texture. But if it stood alone, a first interpretation of it might fairly lead to the conclusion, that the purchaser there spoken of was a purchaser, not from a mere wrong-doer, but from the first and true inventor before he had obtained his patent. The language of the clause does not even include the qualification that the purchaser should be a *bonâ fide* purchaser for a valuable consideration, without notice of the claim or title of the inventor, or of any fraud of the vendor upon that claim or title.

to such a license, grant, or consent, is well shown in a case where a person employed in the manufactory of another,

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Yet, surely, it could never have been the intention of this clause, to confer on a fraudulent purchaser, or a purchaser with full notice, a right to use an invention pirated from the original inventor, by wrong. If, on the other hand, we interpret the language to mean a purchaser from the inventor himself, before his application for a patent, the omission of such qualifying words is at once material and consistent with the apparent objects of the section. But the remaining clauses of this section render this interpretation perfectly clear and right. These clauses point solely to the inventor, and demonstrate that the purchaser before spoken of, was a purchaser from the inventor himself. The language is, "and no patent shall be held to be invalid by reason of any such purpose, sale or use, prior to the application for a patent, as aforesaid, except on proof of an abandonment of such invention to the public." Now the inventor, and the inventor alone, is competent to abandon his invention to the public, and no use by the public, except with his knowledge and consent, can be deemed an abandonment of his invention to the public. It is, therefore, put as an exception carved out of the preceding words; and if the purchase, sale or prior use, were from or under the inventor, and with his consent and knowledge, the exception would have its appropriate effect. It is an exception, *ejusdem generis*. The clause would then read, in legal effect thus — the patent shall not be held invalid, by reason that the inventor has sold or allowed his invention to be used prior to the application for a patent, unless he has abandoned it to the public. Then follows the remaining clause: "Or that such purchase, sale or prior use, has been for more than two years prior to such application for a patent;" which also imports another exception, limiting the right to make application for a patent to the period of two years after the inventor has sold or allowed his invention to be used by others. Any other construction of these clauses, would lead to this extraordinary conclusion, that the inventor would be deprived of the benefit of his invention, and his right to a patent without any *laches* or misconduct on his own part, by the mere acts of a wrong-doer, without his knowledge or against his will; and the exceptions, in a practical sense, would become nullities. But construed, as we construe them, and they have a plain, appropriate and satisfactory meaning. This view of the matter is in entire coincidence with the whole theory and enactments of all the other Patent Acts, and with the judicial interpretations which have been constantly put upon them. It has been the uniform doctrine of the courts of the United States, that no fraudulent or wrongful use of an invention, and no public use without the consent or knowledge, or sanction of the inventor, would deprive him of his right to a patent.

while receiving wages, made experiments at the expense and in the manufactory of his employer, had his wages increased

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The case of McClurg *v.* Kingsland, (1 How. Sup. Ch. R. 202,) properly considered, contains nothing to conflict with this doctrine. The learned judge (Mr. Justice Baldwin) who delivered the opinion of the court, in commenting upon the 7th section of the Act of 1839, said: "The object of this provision is evidently twofold; first, to protect the person who used the thing patented, by having purchased, constructed or used the machine, &c., to which the invention is applied, from any liability to the patentee or his assignee; second, to protect the rights granted to the patentee against any infringement by any other persons." This language is certainly general, but then, in order to understand it correctly, we must apply it to the very case then before the court; and in this view it was perfectly accurate and appropriate. What was that case? It was a case where the patentee, before he obtained his patent, allowed the defendants to use for their own profit, the very improvements invented by him; and, indeed, the improvement was invented by the patentee while he was in their employment, and receiving wages from them, and he freely allowed them to use it. Afterwards, the assignee of the patentee brought the suit against the defendants for using the improvement after the patent was granted. The Circuit Court held that the facts justified the jury in presuming, that the defendants used the improvement under a license or privilege originally granted to them by the inventor, and that the facts of the case brought it directly within the 7th section of the Act of 1839. Mr. Justice Baldwin presided in the Circuit Court at the trial, and he also delivered the opinion of the Supreme Court. So that, putting both opinions together on the points in controversy, it is plain that the learned judge, by the language above stated, meant to affirm no more than that where the invention had, before the patent, been used under a license or grant of the patentee, that license or grant being a purchase or sale, or use with the consent of the patentee, was within the provision of the 7th section of the Patent Act of 1839. It seems to us, that no reasonable objection exists to this doctrine; and it is in conformity to, and in illustration of, the very doctrine already stated by us as the true meaning of the section.

Indeed, the context immediately following the passage here cited from the opinion of the learned judge, shows this to have been his meaning. In the former part of the opinion, he had endeavored to show that, under the prior Acts of Congress, if the patentee allowed not merely the public use, but even a free individual use of his invention before he obtained a patent, that would deprive him of his right to a patent; and that the 7th section of the Act of 1839, was intended to cure this inconvenience and defect in the law. "This" [section] says the learned judge, "relieved him (the patentee) from

in consequence of the useful result of the experiment, made the article invented, and permitted his employer to use it, no compensation for its use being paid or demanded, and then obtained a patent; it was held, that such an unmolested and notorious use of the invention, prior to the application for a patent, brought the case within the provisions of the statute.[1]

§ 61. But the further consideration of the subjects of license and abandonment belongs to another part of this treatise.

§ 62. The novelty required by our law relates not merely to previous inventions made in this country, but to inventions made any where in the world. The invention must be absolutely and not relatively new. It must not have been known or used anywhere, and not described in any public work.[2]

§ 63. But there is an important proviso, introduced into the statute, which declares that whenever it shall satisfactorily appear that the patentee, at the time of making his application for the patent, believed himself to be the first inventor or discoverer of the thing patented, the same shall not be held to be void on account of the invention or discovery, or any part thereof, having been before known or used in any foreign country, it not appearing that the same or any substantial part thereof had before been patented or described in

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the effect of the former laws and their constructions, by this Court, &c., &c., while it puts the person who has had such prior use on the same footing as if he had a special license from the inventor to use his invention; which, if given before the application for a patent, would justify the continued use after it issued without liability." So that here we have expressed, in a pointed manner, the true object and intent of the 7th section of the Act of 1839, which was to give validity to the patent, and yet to secure to a purchaser from him before the patent, the same right to use the same after the patent which he previously possessed."

[1] McClurg *v.* Kingsland, 1 Howard, 202.

[2] Shaw *v.* Cooper, 7 Peters, 292. Dawson *v.* Follen, 2 Washington, 311. Act of 1836, § 15.

any printed publication.[1] So that, as the law now stands, an inventor who does not borrow from a foreign discovery, that is, who believes himself to be the first inventor or discoverer of the thing patented, can only be deprived of the benefit of his patent, by showing that the thing had been before patented, or described in some printed publication. It will not be enough to show that the thing had been known or used in a foreign country, if it had not been patented, or described in a printed publication.

§ 64. Thus, while the recent statute still continues the presumption that the patentee has seen the prior description contained in a printed publication, and makes that presumption conclusive,[2] it relieves an original inventor from the same presumption, arising out of the mere previous knowledge or use of the thing in a foreign country where it had not been patented or described; and if he can take the oath that he discovered or invented the thing, he will not be debarred of his patent, by a prior invention or discovery and secret use of the thing, in a foreign country.[3]

§ 65. No judicial construction has yet been given to the phrases, "described in some public work" and "described in any printed publication." It has been suggested by a learned writer, that the courts would not, probably, require that the description in a public work should fully answer as a specification, but would require that it should serve as a direction for making or doing the thing to which the description re-

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[1] Act of 1836, § 15.

[2] Upon the former law, the Supreme Court of the United States said "It may be that the patentee had no knowledge of this previous use or previous description; still his patent is void; the law supposes he may have known it." Evans *v.* Eaton, 3 Wheat. 514.

[3] The text was written before the opinion on this point lately given by the Attorney-General of the United States, under date of August 30, 1848, which agrees with my construction of the Statutes.

lated.[1] It also remains to be determined what is to be considered as a "public work," or "printed publication."

§ 66. It remains to be stated, that the consideration upon which a patent is granted, is the novelty of every material thing, process, or part of the invention, included in the subject-matter, that is represented as a substantial and material part thereof; that this consideration is an entirety, and consequently, that if any part of it fails, the patent is invalid. This consequence results from the general principles of law which govern grants by the public, and these principles are recognized by the statute, which establishes as one of the defences to an action on a patent "that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new."[2]

§ 67. So also, in respect of utility, if a patent contains more than is necessary to produce the described effect, and the addition was made for the purpose of deceiving the public, it will be invalid;[3] and if the whole patent fails to produce the described effect, no action can be maintained upon it.[4]

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[1] Phillips on Patents, 175.

[2] Act of July 4th, 1836, § 15. See further, as to the failure of the patent in whole or in part, in respect to novelty, *post*, in the chapter on INFRINGEMENT. As to the mode of remedying these defects, see *post*, in the chapter on RENEWAL OF PATENTS, and in the chapter on DEFENCES.

[3] Act of July 4th, 1836, § 15.

[4] See *post* in the chapter on INFRINGEMENT.

CHAPTER II.

THE SUBJECT OF INVENTION OR DISCOVERY.

§ 68. The Act of Congress of July 4, 1836, ch. 357, § 6, declares the subject of letters-patent to be "any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter." In the preceding chapter, we have considered the qualifications of novelty and utility, with reference to all these subjects; and we have now to treat of the several subjects themselves.

§ 69. In England, the Statute of Monopolies made the subject-matter of letters-patent "the sole working or making of any manner of new *manufactures* within this realm." It has been doubted whether the employment of other phrases has had any great tendency to elucidate the subject. Language may be inadequate to express all the minute distinctions which present themselves, in considering what may, consistently with the purposes and objects of the Patent Law, be the subject of a patent. But whether we have or have not gained any thing in point of precision and certainty, by the enumeration in our statute, perhaps we have not enlarged the subject of patents beyond the general scope of the English law, as judicially expounded. At least, the English exposition of the term "manufactures" will help us to understand what is intended by the classification in our own statute.

§ 70. The cardinal principle, which lies at the foundation

of the Patent Law in England, as well as in this and most other countries, is, that whatever be the character of the subject-matter, or the way in which it is described, the result must be an effect produced in manufactured, as distinguished from elementary matter.[1] The subject-matter of a patent may be either a thing produced or the mode of producing a thing; but it must be the one or the other, and can never be a new discovery of an elementary principle, without practical application to the production of some particular effect in matter. This fundamental rule is deducible not only from the meaning of the term "manufacture," which cannot be made to mean any thing that does not result in manufactured matter in some way — but also from the general scope and spirit of the Patent Law, which was not designed to create monopolies in abstract principles or theoretical discoveries, but to promote the arts and manufactures of the country.[2]

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1 "All invention, whatever its object, will consist in new applications, or adaptations. Matter is endowed with certain properties, and subject to certain laws; man cannot alter these properties or impose other laws, but he has the power of applying those properties and of giving occasion for the exercise of those laws according to his will, and the result of the exercise of that will, is exhibited in manufactured as distinguished from elementary matter." Webster on the Subject-Matter of Letters-Patent for Inventions, (London, 1841,) p. 7.

2 "Now the word 'manufactures' has been generally understood to denote either a thing made, which is useful for its own sake, and vendible as such, as a medicine, a stove, a telescope and many others, or to mean an engine or instrument, or some part of an engine or instrument, to be employed, either in the making of some previously known article, or in some other useful purpose, as a stocking-frame, or a steam-engine for raising water from mines. Or it may perhaps extend also to a mere process, to be carried on by known implements or elements, acting upon known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better or more useful kind. But no merely philosophical or abstract principle can answer to the word manufactures. Something of a corporeal and substantial nature, something that can be made by man from the matters subjected to his art and skill, or at the least, some new mode of employing practically his art and skill, is requisite to satisfy this word. A person, therefore, who applies to the crown for a patent, may

§ 71. But, subject to this restriction, the words, "any manner of new manufactures," in the Statute of Monopolies, have received in construction a comprehensive import. According to the construction of the Courts, the word *manufacture* is used in the statute in a literal and a figurative sense. It is used in a literal sense, because it clearly includes any species of new manufactured article, or tangible product of industry; or a new machine, the construction or production of which, as an arrangement of matter, is the result at which the inventor aims. But when it is extended to include the mode of producing an old or well-known substance, or an old and well-known effect upon matter, by a new method or process, it seems to be used in a sort of figurative sense; because, in such cases, it is the method or process of producing the thing or the effect that is new, and is the real subject of the invention, and the manufacture, or the result attained in matter, is then made to stand in the place of the new method or process of attaining it.

§ 72. Thus, "manufacture" has been defined to be "some-

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represent himself to be the inventor of some new thing, or of some new engine or instrument. And in the latter case he may represent himself to be the inventor of a new method of accomplishing that object, which is to be accomplished by his new engine or instrument, as was the case of *Watt's* Patent, in which he represented himself to be the inventor of a new method of lessening the consumption of steam and fuel in fire-engines, and by his specification he described certain parts to be used in the construction of fire-engines. Or supposing a new process to be the lawful subject of a patent, he may represent himself to be the inventor of a new process, in which case it should seem that the word "method" may be properly used as synonymous with process. The language of the patent may be explained and reduced to certainty by the specification; but the patent must not represent the party to be the inventor of one thing, and the specification show him to be the inventor of another, because, perhaps, if he had represented himself as the inventor of that other, it might have been well known that the thing was of no use, or was in common use, and he might not have obtained a grant as the inventor of it." The King *v.* Wheeler, 2 B. & Ald. 349, 350.

thing made by the hand of man;"[1] and it has also been held to include the practice of making a thing, or of producing a result.[2] As in Watt's patent for "a method of lessening the

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[1] Per Lord Kenyon, in Hornblower *v.* Boulton, 8 T. R. 99.

[2] "It was admitted, at the argument at the bar, that the word '*manufacture*,' in the statute, was of extensive signification; that it applied not only to things made, but to the *practice of making*, to principles carried into practice in a new manner, and to new results of principles carried into practice. Let us pursue this admission. Under *things made* we may class, in the first place, new compositions of things, such as manufactures in the most ordinary sense of the word; secondly, all mechanical inventions, whether made to produce old or new effects, for a new piece of mechanism is certainly a thing made. Under the *practice of making*, we may class all new artificial manners of operating with the hand, or with instruments in common use, new processes in any art, producing effects useful to the public. When the effect produced is some new substance or composition of things, it should seem that the privilege of the sole working or making ought to be for such new substance or composition, without regard to the mechanism or process by which it has been produced, which, though perhaps also new, will be only useful as producing the new substance. Upon this ground Dolland's patent was perhaps exceptionable, for that was for a *method* of producing a new object glass, instead of being for the object glass produced. If Dr. James's patent had been for his *method for preparing* his powders, instead of the *powders themselves*, that patent would have been exceptionable upon the same ground. When the effect produced is no substance or composition of things, the patent can only be for the mechanism, if new mechanism is used, or for the process, if it be a new method of operating, with or without old mechanism, by which the effect is produced. To illustrate this. The effect produced by Mr. David Hartley's invention for securing buildings from fire is no substance, or composition of things; it is a mere negative quality, the absence of fire. This effect is produced by a new method of disposing iron plates in buildings. In the nature of things, the patent could not be for the effect produced. I think it could not be for making the plates of iron, which, when disposed in a particular manner, produced the effect; for those are things in common use. But the invention consists in the *method of disposing those plates of iron* so as to produce their effect; and that effect being a useful and meritorious one, the patent seems to have been very properly granted to him for *his method* of securing buildings from fire. And this compendious analysis of *new manufactures* mentioned in the statute, satisfies my doubt, whether any thing could be the subject of a patent but something organized and capable of precise specification. But for the more satisfac-

consumption of steam and fuel in fire-engines," which was held, after great consideration, to be a good subject-matter.[1] The distinction to which this case gave rise, and which greatly extended the meaning of the term "manufacture," is this: that although a principle, or a rule in mechanics, or an elementary truth in physics, cannot be the subject of a patent, yet a new principle, rule, or truth, developed, carried out, and embodied in the mode of using it, may be the subject of a patent. A mere principle is an abstract discovery, incapable of answering the term "manufacture;" but a

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tory solution of the other points which are made in this case, I shall pursue this subject a little further. In Mr. Hartley's method, plates of iron are the means which he employs; but he did not invent those means; the invention wholly consisted in the new manner of *using*, or I would rather say of *disposing, a thing in common use*, and which every man might make at his pleasure, and which, therefore, I repeat, could not, in my judgment, be the subject of the patent. In the nature of things it must be that, in the carrying into execution any new invention, use must be made of certain means proper for the operation. Manual labor, to a certain degree, must always be employed; the tools of artists frequently; often things manufactured, but not newly invented, such as Hartley's iron plates; all the common utensils used in conducting any process, and so up to the most complicated machinery that the art of man ever devised. Now let the merit of the invention be what it may, it is evident that the patent, in almost all these cases, cannot be granted for the *means* by which it *acts*, for in them there is nothing new, and in some of them nothing capable of approbation. Even where the most complicated machinery is used, if the machinery itself is not newly invented, but only conducted by the skill of the inventor so as to produce a new effect, the patent cannot be for the machinery. In Hartley's case it could not be for the *effect* produced; for the effect, as I have already observed, is merely negative, though it was meritorious. In the list of patents with which I have been furnished, there are several for new methods of manufacturing articles in common use, where the sole merit and the whole effect produced are the saving of time and expense, and thereby lowering the price of the article, and introducing it into more general use. Now I think these *methods* may be said to be *new manufactures*, in one of the common acceptations of the word, as we speak of the manufactory of glass, or of any other thing of that kind." Per Eyre, C. J., in Boulton *v.* Bull. 2 H. Bl. 492.

[1] Boulton *v.* Bull, *ut supra.* Hornblower *v.* Boulton, *ut supra.*

principle so far embodied and connected with corporeal substances, as to be in a condition to act and to produce effects in any art, trade, mystery, or manual occupation, becomes the practical manner of doing a particular thing. It is no longer a principle, but a process.[1] Mr. Watt's invention was the discovery of a practical means of lessening the consumption of steam, by protecting the cylinder from the external air, and keeping it at a temperature not below that of steam itself. He thus brought a principle into practical application, by the invention of a process.

§ 73. In like manner, a patent for the application of the flame of gas, instead of the flame of oil, to remove the superfluous fibres of lace, was sustained.[2] So, too, where the invention consisted in the use and application of lime and mine-rubbish in the smelting of iron, Lord Eldon said there might be a patent for a new combination of materials previously in use for the same purpose, or for a new method of applying such materials.[3] But this distinction has been made still more prominent by two recent cases. In one, the patent was for the application of anthracite, combined with hot-air blast, in the smelting or manufacture of iron from iron stone, mine, or ore; and the patent was sustained.[4] In the other, the invention was of a mode of welding iron tubes, without the use of a maundril, or any internal support; and this patent was also sustained.[5]

§ 74. These cases show that the term *manufacture* has been extended to include every object upon which art or skill

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[1] See the remarks of Eyre, C. J., *ante*.

[2] Hall *v.* Jervis, Webs. Pat. Cas. 100.

[3] Hill *v.* Thompson, 3 Mer. 626. Webs. Pat. Cas. 237. In Morgan *v.* Seaward, 2 Mees. & W. 544, Mr. Baron Parke said: — "The word manufacture, in the statute, must be construed one of two ways; it may mean the machine when completed, or the mode of constructing the machine.

[4] Crane *v.* Price, Webs. Pat. Cas. 393, 408.

[5] Russell *v.* Cowley, Webs. Pat. Cas. 459.

can be exercised, so as to afford products fabricated by the hand of man, or by the labor which he directs.[1] In this sense it includes a process; so that a patent may, it is said, be taken for a process, method, or practical application of a principle, that will cover every means or apparatus by which that process or method can be carried on, or by which that principle can be applied, provided the patentee has not only discovered the principle, but has also invented some mode of carrying it into effect.[2]

§ 74 *a*. But it is necessary here to consider the broad question, what constitutes a patentable subject, before we attend to the classification of patentable subjects adopted by our statute.

§ 75. It is constantly to be borne in mind, in considering what may be the subject of a valid patent, that it cannot be a mere elementary principle, or intellectual discovery; but if a principle constitutes an important part of the discovery, it must be a principle put in practice and applied to some art.[3] A science, therefore, or an elementary principle or discovery in science, cannot be the subject of a patent. So, too, there cannot be a patent for an effect, but it must be for the mode or means by which the effect is produced;[4] or the practical mode of operating, by means of certain agencies or properties of matter, or laws of physics, so as to produce a given effect.

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[1] Webster's Law and Practice, Supplement, p. 8.

[2] Forsyth *v.* Riviere, Webs. Pat. Cas. 97, note. Per Alderson, B., in Jupe *v.* Pratt, Ibid. 146, and in Nielson *v.* Hartford, Ibid. 342.

[3] Earl *v.* Sawyer, 4 Mass. 1 – 6. "The very statement of what a principle is, proves it not to be a ground for a patent. It is the first ground and rule for arts and sciences, or, in other words, the elements and rudiments of them. A patent must be for some new production from those elements, and not for the elements themselves." Per Buller, J., in Boulton *v.* Bull, 2 H. Bl. 485.

[4] Whittemore *v.* Cutter, 1 Gallis. 478, 480.

§ 76. The consequences of allowing a patent for an abstract art or a principle, instead of allowing it only for a principle as applied to the production of a particular thing, or a particular result in matter, are apparent, when it is considered that principles are the elements of science; and if a a patent could be taken for a newly discovered principle in science, it would cover every object to which that principle could be applied, and the whole field of the arts would thus at once be occupied by a few monopolists.[1] If a patent for an art or method of combining different elements or principles in science were possible, without its being confined to a particular product or result by means of such an art or method, every product, substance, or manufacture, to the creation of which that art or method could be applied, would be included in it. Thus it has been happily pointed out by an eminent English judge that if a man could have a patent for the principle or abstract art of intermixing water with oil colors, no other man could have had a patent for any distinct manufacture produced on the same principle.[2] The distinction is this: — if a discovery consists merely in detecting some new property of matter, or of the elements of nature, or the laws of physics, but no special and positive application is made of it to specific fabrications, it is a discovery in science, or ab-

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[1] "Indeed it seems impossible to specify a principle, and its application to all cases, which furnishes an argument that it cannot be the subject of a a patent." Per Heath, J., in Boulton *v.* Bull, 2 H. Bl. 483.

[2] The case of water tabbies, which has often been mentioned in *Westminster Hall*, may afford some illustration of this subject. That invention first owed its rise to the accident of a man's spitting on a floor cloth, which changed its color, from whence he reasoned on the effect of intermixing water with oils or colors, and found out how to make water tabbies and had his patent for water tabbies only. But if he could have had a patent for the principle of intermixing water with oil or colors, no man could have had a patent for any distinct manufacture produced on the same principle, yet as the floor cloth and the tabby are distinct substances, calculated for distinct purposes, and were unknown to the world before, a patent for one would be no objection to a patent for another." Per Buller, J., in Boulton *v.* Bull, 2 H. Bl. 487.

stract mechanics, and not patentable; but if the discoverer makes use of such a new property, or avails himself of scientific or mechanical principles, for the production of a new substance, instrument or machine, obtaining a result that is new, and of a vendible description, the particular mode of producing that particular thing may be the subject of a patent.[1] This distinction has been previously noticed; but it is necessary here to examine the doctrine, and to ascertain to what objects the distinction has been applied, and what seem to be its necessary limits.

§ 77. We have already seen that the term "manufacture" being the only generic term used in the Statute of Monopolies to describe the subjects of lawful patents, it became necessary to enlarge it by construction much beyond its literal import. As soon as it was held that a patent could be taken

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[1] A striking illustration of this distinction occurred before Mr. Justice Story. The plaintiff's specification claimed "as new, to cut ice, of a uniform size, by means of an apparatus worked by any other power than human. *The invention of this art*, as well as the particular method of the application of the principle, are claimed by the subscriber." The learned judge said "it is plain, then, that here the patentee claims a title to the art of cutting ice by means of any power other than human power. Such a claim is surely unmaintainable in point of law. It is a claim for an art or principle in the abstract, and not for any particular method or machinery by which ice is to be cut. No man can have a right to cut ice by all means or methods, or by all or any sort of apparatus, although he is not the inventor of any or all of such means, methods, or apparatus." Wyeth *v.* Stone, 1 Story's R. 273, 285. But the court intimated that the claim for the particular method of the application of the principle would have been good, if a disclaimer had been filed in season as to that part of the claim which was clearly bad. *Ibid.*

See also Stone *v.* Sprague, 1 Story's R. 270, where in a patent for an improvement on looms, the invention claimed was the communication of motion from the reed to the yarn beam, in the connection of the one with the other, which is produced as follows, describing the mode, it was held, that the invention was limited to the specific machinery and mode of communicating the motion, &c., specifically described in the specification; otherwise it would be a claim for the abstract principle of communicating motion in all possible modes.

for the mode of producing an effect, as in Watt's case, for the mode of lessening the consumption of steam in a steam-engine, the literal meaning of this term was widely departed from, and that was held to be a "manufacture" within the meaning of the statute, which in reality consisted in the new application of certain principles of physics, to effect the more economical use of a well-known machine. This, of necessity, opened the whole subject of principle and method, and led to the doctrine which we are now to state.

§ 78. Although a patent cannot be taken out for a new principle, yet, where it has been embodied, so as to be capable of being made active, it is, as we have seen, a proper subject of a patent; and if any other person puts that principle into use, in any other form, it is a question for a jury, whether that form be not substantially an adaptation of the principle, applied with the same view to answer the same end, and merely imitated in substance, whatever difference there may be in point of form. If the patentee has invented some mode of carrying the principle into effect, he is entitled, it is said, to protect himself from all other modes of carrying the same principle into effect.[1] In point of fact, the patent in such cases is taken, not for the principle itself but for the mode of carrying into effect;[2] so that when it is alleged that

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[1] In Jupe *v.* Pratt, Webs. Pat. Cas. 144, 146, Alderson, B., said, "The difficulty which will press on you, and to which your attention will be called, in the present case, is this: you can take out a patent for a principle coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect. But then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as a piracy of your original invention. But then the difficulty that will press on you here is, that on the evidence, there does not appear to have been any mode of carrying the principle into effect at all invented by you."

[2] See Hill *v.* Thompson, Webs. Pat. Cas. 227; 3 Meriv. 626.

an infringement has taken place, the question is whether the defendant has undertaken to carry the same principles into effect in the same mode, so that, in substance, all the variations of means and appliances which he has made use of are merely colorable variations of the mode of carrying it into effect, invented by the patentee. This seems to be what is intended by the learned judge whose observations are cited in the foregoing note, when he says that the patentee is entitled to protection against all other means of carrying the principle into effect.[1] He is entitled to protection against all colorable variations for carrying the same principle into practice for obtaining the same effect or result.[2]

§ 79. Thus, there may be a patent for the practical application of a known thing to produce a particular effect. As in the case of Hartley's invention to protect buildings from fire, by the application of plates of metal.[3] So too, in the case of Forsyth's patent, for the application of detonating

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[1] See the observations of the same learned judge, in Neilson *v.* Harford, Webs. Pat. Cas. 342.

[2] In Gray *v.* James, Peters's Cir. C. R. 394, 400, where the patent was "for an improvement in the art of making nails by means of a machine which cuts and heads the nail at one operation," Washington, J., applied the same doctrine, holding that where two machines are substantially the same, and operate in the same manner, to produce the same result, they must be in principle the same; and that when the same result is referred to as the test, it must mean the same kind of result though it may differ in extent. He further instructed the jury as follows: "The patent is supposed to be for the machine itself, which is composed of parts which have long become public property. This is not the fact. The patent is for an improvement in the art of making nails by means of a machine which cuts and heads the nails at one operation. It is therefore not the grant of an abstract principle, nor is it the grant of the different parts of any machine; but of an improvement applied to a practical use, effected by a combination of various mechanical powers to produce a new result. The lever, the vice, the cutters, the dies, &c., may be used by any person without a violation of the plaintiff's patent. But they cannot be used in their combined state to produce by the same operation, the same result, which is the distinguishing characteristic of the plaintiff's machine, without a license from the owners."

[3] See Boulton *v.* Bull, 2 H. Bl. 495. Webs. Pat. Cas. 54, 56, note.

powder, which he did not invent, to the discharge of artillery, mines, &c., the patentee succeeded in an action against a party using a lock of different construction to any shown in the drawing annexed to his specification, and thus established his right to the exclusive use and application of detonating powder as priming, whatever the construction of the lock by which it was discharged.[1] In the same way, where the plaintiff had obtained a patent for the application of the flame of gas, to singe off the superfluous fibres of lace and other goods, but did not claim the exclusive use of any apparatus or combination of machinery except in connection with, and in aid of the application of the flame of gas to the purposes described in his specification, he had a verdict founded on his sole right to use gas flame for the clearing of fibres from lace.[2] So also, where the invention consisted in the use of anthracite or stone coal, combined with the hot-air blast, in the smelting or manufacture of iron from iron stone, mine or ore; and the using of the hot blast was known before in the manufacture of iron with bituminous coal, and the use of anthracite or stone coal was known before in the manufacture of iron with cold blast, but the combination of the hot blast and the anthracite was not known before in the manufacture of iron, the Court of Common Pleas declared, that if the result produced by such a combination is either a new article or a better article, or a cheaper article to the public than that produced before by the old method, such combination is an invention or manufacture intended by the statute, and may well become the subject of a patent.[3] Again, where the invention

[1] Forsyth *v.* Riviere, Webs. Pat. Cas. 95, 97, note.

[2] Hall *v.* Jervis, Webs. Pat. Cas. 100, 103. See, also, a case where the invention undoubtedly consisted in bringing a newly discovered principle into practical application, namely, that lead could be forced by extreme pressure, when in a set or solid state, to reunite, after separation of its parts, as completely as though it had never been separated; but the patent was held not to be so drawn as to embrace it. Le Roy *v.* Tatham, 14 Howard, 156. See the very able discussion by Mr. Justice Nelson, in his dissenting opinion, of the doctrine of the patentability of a principle, referred to in the text.

[3] Crane *v.* Price, Webs. Pat. Cas. 393, 408. In this case Sir N. C. Tin-

was to manufacture iron tubes by welding them, without the

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dall, C. J., said: "Now in order to determine whether the improvement described in the patent, is or is not a manufacture within the statute, we must, in the first place, ascertain precisely what is the invention claimed by the plaintiff; and then, by the application of some principles, admitted and acknowledged in the application of the law relating to patents, and by the authority of decided cases, determine the question in dispute between the parties. The plaintiff describes the object of his invention to be the application of anthracite or stone coal, combined with hot-air blast in the smelting or manufacture of iron from iron stone, mine, or ore, and states distinctly and unequivocally at the end of his specification, that he does not claim the use of a hot-air blast, separately, as of his invention, when uncombined with the application of anthracite or stone coal. Nor does he claim the application of anthracite or stone coal, when uncombined with the using of hot-air blast, in the smelting and manufacture of iron from iron stone, mine or ore. And the question, therefore, becomes this — whether, admitting the using of the hot-air blast to have been known before in the manufacture of iron with bituminous coal, and the use of anthracite or stone coal, to have been known before in the manufacture of iron with coal blast, but that the combination of the two together (the hot blast and the anthracite) were not known to be combined before in the manufacture of iron, whether such combination can be the subject of a patent.

We are of opinion, that if the result produced by such a combination is either a new article, or a better article, or a cheaper article to the public, than that produced before by the old method, that such combination is an invention or manufacture intended by the statute, and may well become the subject of a patent. Such an assumed state of facts falls clearly within the principle exemplified by Abbott, C. J., (The King *v.* Wheeler, 2 B. & Ald. 349,) where he is determining what is or what is not the subject of a patent; namely, it may, perhaps, extend to a new process, to be carried on by known implements or elements acting upon known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or a better or more useful kind. And it falls also within the doctrine laid down by Lord Eldon, (Hill *v.* Thompson, Webs. Pat. Cas. p. 237,) that there may be a valid patent for a new combination of materials previously in use for the same purpose, or even for a new method of applying such materials. But the specification must clearly express, that it is in respect of such new combination or application.

There are numerous instances of patents, where the invention consisted in no more than in the use of things already known, and acting with them in a manner already known, and producing effects already known, but producing those effects so as to be more economically or beneficially enjoyed by the public. It will be sufficient to refer to a few instances, some of which

use of any maundril, or internal support, but the patentee did not claim any precise construction of apparatus for this purpose, but his claim consisted in heating the previously prepared tubes of iron to a welding heat, and then, without any internal support, drawing them between dies or holes, by which the edges of the heated iron became pressed and welded together; and the defendant had made tubes upon the same principle of manufacture, but with a somewhat varied apparatus; the patentee had a verdict for the infringement, and his patent was afterwards sustained before the Court of Exchequer *in banc*.[1]

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patents have failed on other grounds, but none on the ground that the invention itself was not the subject of a patent.

We may first instance Hall's patent for applying the flame of gas to singe off the superfluous fibres of lace, where a flame of oil had been used before for the same purpose. (Webs. Pat. Cas. p. 97.) Derosne's patent, in which the invention consisted in filtering the syrup of sugar through a filter, to act with animal charcoal, and charcoal from bituminous schistus, where charcoal had been used before in the filtering of almost every other liquor, except the syrup of sugar. (Webs Pat. Cas. p. 152.) Hill's patent, above referred to, for improvements in the smelting and working of iron; there the invention consisted only in the use and application of the slags or cinders thrown off by the operation of smelting, which had been previously considered useless for the production of good and serviceable metal, by the admixture of mine rubbish. Again, Daniell's patent was taken out for improvements in dressing woolen cloth, where the invention consisted in immersing a roll of cloth, manufactured in the usual manner, into hot water. (Webs. Pat. Cas. 71, note *e*., and the King *v*. Daniell, Godson on Pat. 274.)

The only question, therefore, that ought to be considered on the evidence is, was the iron produced by the combination of the hot blast and the anthracite, a better or a cheaper article than was before produced from the combination of the hot blast and the bituminous coal; and was the combination described in the specification, new, as to the public use thereof in England. And, upon the first point, upon looking at the evidence in the cause, we think there is no doubt, that the result of the combination of the hot blast with the anthracite on the yield of the furnace was more, the nature, properties and quality of the iron better, and the expense of making the iron less than it was under the former process, by means of the combination of the hot blast with the bituminous coal."

[1] Russell *v*. Cowley, Webs. Pat. Cas. 459, 465. At the trial, at the close of the plaintiff's case, Lord Lyndhurst, C. B., who presided, recalled Mr.

§ 80. And where the invention consisted in the application of heated air as a blast for fires, forges, and furnaces, but the

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Brunel and Mr. Donkin, when the following questions were put, and answers given. Lord Lyndhurst, C. B.: "When the upper roller is down, its lower edge lies upon the upper ledge of the under roller, and there is a hole between the rollers, and through that hole, by means of the revolution of the rollers, the heated tube is drawn. Now, I wish to ask you, whether that (without the scorpion) which they say, by pressure, welds the heated tube — the sides of the hole, they say, weld the tube — is in your judgment similar, though not exactly the same, similar to the invention of the plaintiff; the plaintiff stating that his invention is of this description — "The principle of my invention is the heating the previously prepared tubes of iron to a welding heat, that is, nearly to the point of fusion, and then, after withdrawing them from the heat, to pass them between dies, or through holes, by which the edges of the heated iron may be pressed together, and the joint firmly welded." "I want to know whether that effect is produced by the rollers, although not so perfectly as by the dies?" Mr. Brunel — "It is produced by the rollers."

"Then I want to know whether the passing them through the rollers in that way alone is not similar, although not so perfect, as passing them through the dies or through the tongs?" Mr. Brunel — "It is my opinion that it is the same."

"It is by the pressure of the sides of that hole, that the edges of the heated iron are welded together?" Mr. Brunel — "It is."

"By passing through the holes of the dies, it is by the pressure of the sides of the hole that the edges of the heated iron are welded together?" Mr. Brunel — "Quite so."

"Then I ask, whether, if it is a question of welding, the one is in your judgment similar to the other?" Mr. Brunel — "It is."

"Mr. Donkin, you have heard the questions I have put to Mr. Brunel — I wish to have your opinion upon the same point?" Mr. Donkin — "I think the holes, when closed, one upon the other, produce a similar effect, and the method of welding is therefore the same."

"Then you think one invention, in principle, is similar to the other?" Mr. Donkin — "I do."

Lord Lyndhurst, C. B.: I confess it appeared to me from reading the specification, that without the scorpion, the one is an imitation of the other; because this party says, "I do not claim this particular apparatus only. I do it by the die, or I do it by the tongs; the principle of my invention is, to pass the heated tubes through the hole at a welding heat, and by pressure occasioned by that hole, to unite together the heated edges by welding." That may be done more or less perfectly — whether it is by the rollers or by the tongs, it is not very material; the one is similar in principle to the other.

patentee claimed no particular form of apparatus for heating the air, but described an apparatus by which it might be heated; and the defendant had employed an apparatus confessedly superior in its effects to that described in the plaintiff's specification, and such an improvement as would have supported a patent; but as it involved the principle of the plaintiff's invention, it was held an infringement.[1]

§ 80 *a*. A recent case in the Supreme Court of the United States presents an apt illustration of the distinction between a claim for the machinery by which a newly discovered principle is carried into practical application, for the production of a useful article, and the discovery and application of the principle itself. The plaintiffs discovered the principle that lead when recently set and solid, but still under heat and extreme pressure, in a close vessel, would re-unite after a separation of its parts, and "heal, as it were by the first inten-

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[1] Neilson *v.* Harford, Webs. Pat. Cas. 295, 310, 328. Mr. Baron Parke in this case said to the Jury: "Now the best way of disposing of this case, I think will be to take those questions in order upon which you are to pronounce your opinion; and the first is, whether the defendants have been guilty of infringing the patent? and I apprehend that there is no doubt they have, if the patent be a good patent, and if the specification be free from the objections that are raised to it; and if the specification is to be understood in the sense claimed by the plaintiffs, the invention of heating the air between its leaving the blowing apparatus and its introduction into the furnace, in any way, in any close vessel, which is exposed to the action of heat, there is no doubt that the defendants' machinery is an infringement of that patent, because it is the use of air which is heated much more beneficially, and a great improvement upon what would probably be the machine constructed by looking at the specification alone; but still it is the application of heated air, heated in one or more vessels between the blowing apparatus and the furnace, and therefore if it should turn out that the patent is good, and the specification is good, though unquestionably what the defendants have done is a great improvement upon what would be the species of machinery or apparatus constructed under this patent, it appears to me that it would be an infringement of it; therefore your verdict upon that issue would be for the plaintiff, provided it is for the plaintiff on the other issues."

tion," as completely as though it had not been divided. This new property they applied to the manufacture of lead pipe; but their patent, in the opinion of a majority of the court, claimed the machinery alone, by which the application of the discovery was made, and this machinery turned out not to be new. The following dissenting opinion, delivered by Mr. Justice Nelson, in this case, contains an exceedingly able discussion of the doctrine by which the application of a newly discovered principle becomes the subject of a patent, — a doctrine, it should be observed, which the view taken by the majority of the court, did not necessarily controvert.[1]

"The patent in this case, according to the general description given by the patentees, is for improvements upon, and additions to, the machinery or apparatus of Thomas Burr, for manufacturing pipes and tubes from metallic substances. They declare that the nature of their invention, and the manner in which the same is to operate, are particularly described and set forth in their specification. In that they refer to the patent of Burr of the 11th April, 1820, for making lead pipe out of set or solid lead by means of great pressure, the product being wrought pipe, as contradistinguished from cast, or pipe made according to the draw-bench system. The apparatus, as described by Burr, consisted of a strong iron cylinder, bored sufficiently true for a piston to traverse easily within it. This cylinder was closed at one end by the piston, and also closed at the other, except a small aperture for the die, which formed the external diameter of the pipe. The core or mandrel which determined the inner diameter, was a long cylindrical rod of steel, one end of which was attached to the face of the piston, extending through the centre of the cylinder, and passing also through the centre of the die at the opposite end, leaving a space around the core, and between it and the die, for the formation of the pipe. The metal to form the pipe was admitted into the cylinder in a fluid state, and when it became set or solid, the power of a hydraulic press was applied to

[1] Le Roy *v.* Tatham, 14 Howard, 156, 177.

the head of the piston, which, moving against the body of solid lead in the cylinder, drove it through the die, the long core advancing with the piston and with the body of lead through the die, and thus forming the pipe. The cylinder usually holds from three to four hundred pounds of lead, and continuous pipe is made till the whole charge is driven out.

This plan, though one of deserved merit, and of great originality, failed when reduced to practice, except for the purpose of making very large pipe, larger than that usually in demand, and consequently passed out of general use. The long core attached to the face of the piston, advancing with it in the solid lead, under the great pressure required, was liable to warp and twist out of a straight line, and out of centre in the die, which had the effect to destroy the uniformity of the thickness and centrality of the bore of the pipe.

The old mode, therefore, of making pipe by the draw-bench system, continued down to 1837, when the patentees in this case discovered, by experiment, that lead, when recently set and solid, but still under heat and extreme pressure, in a close vessel, would re-unite after a separation of its parts, and heal (in the language of the patentees) as it were by the first intention, as completely as though it had not been divided.

Upon the discovery of this property of lead, which had never before been known, but on the contrary, had been supposed and believed by all men of science skilled in metals to be impossible, the patentees made an alteration in the apparatus of Burr, founded upon this new property discovered in the metal, and succeeded completely in making wrought pipe out of solid lead by means of the hydraulic pressure. The product was so much superior in quality to that made according to the old mode, that it immediately wholly superseded it in the market. The pipe was also made much cheaper.

The patentees, by their discovery, were enabled to dispense with the long core of Burr, and to fix firmly a bridge or cross-bars at the end of the cylinder near the die, to which bridge they fastened a short core extending into and through the die. By this arrangement they obtained a firm, immo-

vable core, that always preserved its centrality with the die, and secured the manufacture of pipe of uniformity of thickness of wall and accuracy of bore, of any dimension. The lead, after being admitted into the cylinder in a fluid state, was allowed to remain till it became solid, and was then driven by the piston through the apertures in the bridge into the chamber between it and the die, where the parts re-united, after the separation, as completely as before, and, passing out at the die around the fixed short core, formed perfect pipe.

The patentees state, that they do not intend to confine themselves to the arrangement of the apparatus thus particularly specified, and point out several other modes by which the same result may be produced, all of which variations would readily suggest themselves, as they observe, to any practical engineer, without departing from the substantial originality of the invention, the remarkable feature of which, they say, is that lead, when in a set state, being yet under heat, can be made, by extreme pressure, to reunite perfectly around a core after separation, and thus be formed into strong pipes or tubes. Pipes thus made are found to possess great solidity and unusual strength and a fine uniformity, such as had never before been attained by any other mode. The essential difference in its character, and which distinguishes it from all other theretofore known, they add, is, that it is wrought under heat, by pressure and constriction, from set or solid metal.

They do not claim, as their invention or improvement, any of the parts of the machinery, independently of the arrangement and combination set forth.

'What we claim as our invention,' they say, 'is, the combination of the following parts above described, to wit: the core and bridge or guide-piece, with the cylinder, the piston, the chamber and die, when used to form pipes of metal under heat and pressure, in the manner set forth, or in any other manner substantially the same.'

It is supposed that the patentees claim, as the novelty of their invention, the arrangement and combination of the

machinery which they have described, disconnected from the employment of the new property of lead, which they have discovered, and by the practical application and use of which they have succeeded in producing the new manufacture. And the general title or description of their invention, given in the body of their letters-patent, is referred to as evidence of such claim. But every patent, whatever may be the general heading or title by which the invention is designated, refers to the specification annexed for a more particular description; and hence this court has heretofore determined, that the specification constitutes a part of the patent, and that they must be construed together when seeking to ascertain the discovery claimed. Hogg et al. *v.* Emerson, 6 How. 437.

The same rule of construction was applied by the Court of Exchequer, in England, in the case of Neilson's patent for the hot-air blast. Webster's Cases, 373.

Now, on looking into the specification, we see that the leading feature of the invention consists in the discovery of a new property in the article of lead, and in the employment and adaptation of it, by means of the machinery described, to the production of a new article, wrought pipe, never before successfully made. Without the discovery of this new property in the metal, the machinery or apparatus would be useless, and not the subject of a patent. It is in connection with this property, and the embodiment and adaptation of it to practical use, that the machinery is described, and the arrangement claimed. The discovery of this new element or property led naturally to the apparatus, by which a new and most useful result is produced. The apparatus was but incidental, and subsidiary to the new and leading idea of the invention. And hence, the patentees set forth, as the leading feature of it, the discovery that lead, in a solid state, but under heat and extreme pressure in a close vessel, will reunite, after separation of its parts, as completely as though it had never been separated. It required very little ingenuity, after the experiments in a close vessel, by which this new property of the metal was first developed, to construct the

necessary machinery for the formation of the pipe. The apparatus, essential to develop this property, would at once suggest the material parts, especially in the state of the art at the time. Any skilful mechanic, with Burr's machine before him, would readily construct the requisite machinery.

The patentees, therefore, after describing their discovery of this property of lead, and the apparatus by means of which they apply the metal to the manufacture of pipe, claim the combination of the machinery, only when used to form pipes under heat and pressure, in the manner set forth, or in any other manner substantially the same. They do not claim it as new separately, or when used for any other purpose, or in any other way; but claim it, only, when applied for the purpose and in the way pointed out in the specification. The combination, as machinery, may be old; may have been long used; of itself, what no one could claim as his invention, and may not be the subject of a patent. What is claimed is, that it had never been before applied or used, in the way and for the purpose they have used and applied it, namely, in the embodiment and adaptation of a newly discovered property in lead, by means of which they are enabled to produce a new manufacture — wrought pipe — out of a mass of solid lead. Burr had attempted it, but failed. These patentees, after the lapse of seventeen years, having discovered this new property in the metal, succeeded, by the use and employment of it, and, since then, none other than wrought lead pipe, made out of solid lead, has been found in the market, having superseded, on account of its superior quality and cheapness, all other modes of manufacture.

Now, the construction which I understand a majority of my brethren are inclined to give to this patent, namely, that the patentees claim, as the originality of their invention, simply, the combination of the machinery employed, with great deference, seems to me contrary to the fair and reasonable import of the language of the specification, and also of the summary of the claim. The tendency of modern decisions is to construe specifications benignly, and to look through

mere forms of expression, often inartificially used, to the substance, and to maintain the right of the patentee to the thing really invented, if ascertainable upon a liberal construction of the language of the specification when taken together. For this purpose, phrases standing alone are not to be singled out, but the whole are to be taken in connection. 1 Sumn. 482–485.

Baron Parke observed, in delivering the opinion of the court in Neilson's patent, 'That, half a century ago, or even less, within fifteen or twenty years, there seems to have been very much a practice, with both judges and juries, to destroy the patent-right, even of beneficial patents, by exercising great astuteness in taking objections, either as to the title of the patent, but more particularly as to the specifications, and many valuable patent-rights have been destroyed in consequence of the objections so taken. Within the last ten years or more, the courts have not been so strict in taking objections to the specifications, and they have endeavored to hold a fair hand between the patentee and the public, willing to give the patentee the reward of his patent.'

Construing the patent before us in this spirit, I cannot but think that the thing really discovered, and intended to be described and claimed by these patentees, cannot well be mistaken. That they did not suppose the novelty of their invention consisted, simply, in the arrangement of the machinery described, is manifest. They state, distinctly, that the leading feature of their discovery consisted of this new property of lead, and some of its alloys,—this, they say, is the remarkable feature of their invention,—and the apparatus described is regarded by them as subordinate, and as important only as enabling them to give practical effect to this newly discovered property, by means of which they produce the new manufacture. If they have failed to describe and claim this, as belonging to their invention, it is manifest, upon the face of their specification, that they have failed to employ the proper words to describe and claim what they intended; and that the very case is presented, in which, if

the court, in the language of Baron Parke, will endeavor to hold a fair hand between the patentee and the public, it will look through the forms of expression used, and discover, if it can, the thing really invented. Apply to the specification this rule of construction, and all difficulty at once disappears. The thing invented, and intended to be claimed, is too apparent to be mistaken.

The patentees have certainly been unfortunate in the language of the specification, if, upon a fair and liberal interpretation, they have claimed only the simple apparatus employed; when they have not only set forth the discovery of this property in the metal as the great feature in their invention, but, as is manifest, without it the apparatus would have been useless. Strike out this new property from their description and from their claim, and nothing valuable is left. All the rest would be worthless. This lies at the foundation upon which the great merit of the invention rests, and without a knowledge of which the new manufacture could not have been produced; and, for aught we know, the world would have been deprived of it down to this day.

If the patentees had claimed the combination of the core and bridge or guide-piece, with the cylinder, the chambers, and the die, and stopped there, I admit the construction, now adopted by a majority of my brethren, could not be denied; although, even then, it would be obvious, from an examination of the specification as a whole, that the draughtsman had mistaken the thing really invented, and substituted in its place matters simply incidental, and of comparative insignificance. But the language of the claim does not stop here. The combination of these parts is claimed only when used to form pipes of lead, under heat and pressure, in the manner set forth; that is, when used for the embodiment and adaptation of this new property in the metal, for making wrought pipe out of a solid mass of lead. This guarded limitation of the use excludes the idea of a claim to the combination for any other, and ties it down to the instance, when the use incorporates within it the new idea or element

which gives to it its value, and by means of which the new manufacture is produced. How, then, can it be consistently held, that here is a simple claim to the machinery, and nothing more, when a reasonable interpretation of the words not only necessarily excludes any such claim, but in express terms sets forth a different one, — one not only different in the conception of the invention, but different in the practical working of the apparatus to accomplish the purpose intended?

I conclude, therefore, that the claim, in this case, is not simply for the apparatus employed by the patentees, but for the embodiment or employment of the newly discovered property in the metal, and the practical adaptation of it, by these means, to the production or a new result, namely, the manufacture of wrought pipe out of solid lead.

Then, is this the proper subject-matter of a patent?

This question was first largely discussed by counsel and court in the celebrated case of Boulton *v.* Bull, (2 How. 31, 463,) involving the validity of Watt's patent, which was for 'a new invented method for lessening the consumption of fuel and steam in fire-engines.' This was effected by inclosing the steam vessel or cylinder with wood, or other material, which preserved the heat in the steam vessel; and by condensing the steam in separate vessels. It was admitted, on the argument, that there was no new mechanical construction invented by Watt, and the validity of the patent was placed on the ground that it was for well-known principles, practically applied, producing a new and useful result. On the other hand, it was conceded that the application of the principles in the manner described was new, and produced the result claimed; but it was denied that this constituted the subject-matter of a patent. Heath and Buller, Justices, agreed with the counsel for the defendant; but Lord Chief Justice Eyre laid down the true doctrine, and which, I think, will be seen to be the admitted doctrine of the courts of England at this day: — 'Undoubtedly,' he observed, 'there can be no patent for a mere principle; but

for a principle, so far embodied and connected with corporeal substances as to be in a condition to act, and to produce effects in any art, trade, mystery, or manual occupation, I think there may be a patent. Now this,' he continues, 'is, in my judgment, the thing for which the patent stated in the case was granted; and this is what the specification describes, though it miscalls it a principle. It is not that the patentee conceived an abstract notion that the consumption of steam in fire-engines may be lessened, but he has discovered a practical manner of doing it; and for that practical manner of doing it he has taken this patent. Surely,' he observes, 'this is a very different thing from taking a patent for a principle. The apparatus, as we have said, was not new. There is no new mechanical construction, said the counsel for the patentee, invented by Watt, capable of being the subject of a distinct specification; but his discovery was of a principle, the method of applying which is clearly set forth.' Chief Justice Eyre admitted that the means used were not new, and that if the patent had been taken out for the mechanism used it must fail.

He observed: — 'When the effect produced is some new substance, or composition of things, it should seem that the privilege of the sole working or making ought to be for such new substances, or composition, without regard to the mechanism or process by which it has been produced, which, though perhaps also new, will be only useful as producing the new substance.' Again: — 'When the effect produced is no new substance, or composition of things, the patent can only be for the mechanism, if new mechanism is used; or for the process, if it be a new method of operating, with or without old mechanism, by which the effect is produced.' And again he observes: — 'If we wanted an illustration of the possible merit of a new method of operating with old machinery, we might look to the identical case before the court.' p. 493, 495, 496.

This doctrine, in expounding the law of patents, was announced in 1795, and the subsequent adoption of it by

the English courts shows that Chief Justice Eyre was considerably in advance of his associates upon this branch of the law. He had got rid, at an early day, of the prejudice against patents so feelingly referred to by Baron Parke, in Nielson *v.* Harford, and comprehended the great advantages to his country, if properly encouraged. He observed, in another part of his opinion, that 'The advantage to the public from improvements of this kind are, beyond all calculation, important to a commercial country; and the ingenuity of artists, who turn their thoughts towards such improvements, is, in itself, deserving of encouragement.'

This doctrine was recognized by the Court of King's Bench, in the King *v.* Wheeler, 2 B. & Ald. 340, 350. It is there observed, that the word 'manufactures,' in the patent act, may be extended to a mere process, to be carried on by known implements or elements, acting upon known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better or more useful kind.

Now if this process, to be carried on by known implements, acting upon known substances, and ultimately producing some other known substance of a better kind, is patentable, *à fortiori* will it be patentable if it ultimately produces not some other known substance, but an entirely new and useful substance?

In Forsyth's patent, which consists of the application and use of detonating powder as priming for the discharge of fire-arms, it was held, that whatever might be the construction of the lock, or contrivance by which the powder was to be discharged, the use of the detonating mixture as priming, which article of itself was not new, was an infringement. Webster's Pat. Cas. 94, 97, (n.); Curtis on Pat. 230.

This case is founded upon a doctrine which has been recognized in several subsequent cases in England, namely, that where a person discovers a principle or property of nature, and also of some mode of carrying it out into practice, so as to produce or attain a new and useful effect or

result, he is entitled to protection against all other modes of carrying the same principle or property into practice, for obtaining the same result.

The novelty of the conception consists in the discovery and application in the one case, and of the application in the other, by which a new product in the arts or manufactures is the effect; and the question, in case of an infringement, is, as to the substantial identity of the principle or property, and of the application of the same, and consequently the means or machinery made use of, material only so far as they affect the identity of the application.

In the case of Jupe's patent, for 'an improved expanding table,' Baron Alderson observed, speaking of this doctrine, 'You cannot take out a patent for a principle; you may take out a patent for a principle coupled with the mode of carrying the principle into effect. But then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as piracy of your original invention.' Webster's Pat. Cases, 147. The same doctrine was maintained, also, in the case of Neilson's patent for the hot-air blast, in the King's Bench and Exchequer in England. Webster's Pat. Cases, 342, 371; Curtis, § 74, 148, 232; Webster's Pat. Cases, 310.

This patent came also before the Court of Sessions in Scotland; and, in submitting the case to the jury, the Lord Justice remarked: — 'That the main merit, the most important part of the invention, may consist in the conception of the original idea; in the discovery of the principle in science, or of the law of nature, stated in the patent; and little or no pains may have been taken in working out the best mode of the application of the principle to the purpose set forth in the patent. But still, if the principle is stated to be applicable to any special purpose, so as to produce any result previously unknown, in the way and for the object described, the patent is good. It is no longer an abstract

principle. It becomes to be a principle turned to account, to a practical object, and applied to a special result. It becomes, then, not an abstract principle, which means a principle considered apart from any special purpose or practical operation, but the discovery and statement of a principle for a special purpose, that is, a practical invention, a mode of carrying a principle into effect. That such is the law,' he observes, 'if a well-known principle is applied for the first time to produce a practical result for a special purpose, has never been disputed; and it would be very strange and unjust to refuse the same legal effect, when the inventor has the additional merit of discovering the principle, as well as its application to a practical object.'

Then, he observes again, 'Is it an objection to the patent that, in its application of a new principle to a certain specified result, it includes every variety of mode of applying the principle, according to the general statement of the object and benefit to be attained? This,' he observes, 'is a question of law; and I must tell you distinctly that this generality of claim, that is, for all modes of applying the principle to the purpose specified, according to or within a general statement of the object to be attained, and of the use to be made of the agent to be so applied, is no objection to the patent. The application or use of the agent for the purpose specified, may be carried out in a great variety of ways, and only shows the beauty and simplicity and comprehensiveness of the invention.'

This case was carried up to the House of Lords on exceptions to the charge, and, among others, to this part of it, which was the sixth exception, and was as follows:—'In so far as he (the judge) did not direct the jury that, on the construction of the patent and specification, the patentee cannot claim or maintain that his patent is one which applies to all the varieties in the apparatus which may be employed in heating air while under blast; but was limited to the particular described in the specification.' And although the judgment of the court was reversed in the House of Lords

on the eleventh exception, it was expressly affirmed as respects this one. Lord Campbell at first doubted, but after the decision of the courts in England on this patent, he admitted the instruction was right. Webster's Pat. Cases, 683, 684, 698, 717.

I shall not pursue a reference to the authorities on this subject any further. The settled doctrine to be deduced from them, I think, is, that a person having discovered the application for the first time of a well-known law of nature or well-known property of matter, by means of which a new result in the arts or in manufactures is produced, and has pointed out a mode by which it is produced, is entitled to a patent; and, if he has not tied himself down in the specification to the particular mode described, he is entitled to be protected against all modes by which the same result is produced, by an application of the same law of nature or property of matter. And *à fortiori*, if he has discovered the law of nature or property of matter, and applied it, is he entitled to the patent and aforesaid protection.

And why should not this be the law? The original conception—the novel idea in the one case, is the new application of the principle or property of matter, and the new product in the arts or manufactures—in the other, in the discovery of the principle or property, and application, with like result. The mode or means are but incidental, and flowing naturally from the original conception; and hence of inconsiderable merit. But, it is said, this is patenting a principle, or element of nature. The authorities to which I have referred, answer the objection. It was answered by Chief Justice Eyre, in the case of Watt's patent, in 1795, fifty-seven years ago; and more recently, in still more explicit and authoritative terms. And what if the principle is incorporated in the invention, and the inventor protected in the enjoyment for the fourteen years. He is protected only in the enjoyment of the application for the special purpose and object to which it has been newly applied by his genius and skill. For every other purpose and end the principle is free

for all mankind to use. And where it has been discovered, as well as applied to this one purpose, and open to the world as to every other, the ground of complaint is certainly not very obvious. Undoubtedly, within the range of the purpose and object for which the principle has been for the first time applied, piracies are interfered with during the fourteen years. But any body may take it up and give to it any other application to the enlargement of the arts and of manufactures, without restriction. He is only debarred from the use of the new application for the limited time, which the genius of others has already invented and put into successful practice. The protection does not go beyond the thing which, for the first time, has been discovered and brought into practical use; and is no broader than that extended to every other discoverer or inventor of a new art or manufacture.

I own, I am incapable of comprehending the detriment to the improvements in the country that may flow from this sort of protection to inventions.

To hold, in the case of inventions of this character, that the novelty must consist of the mode or means of the new application producing the new result, would be holding against the facts of the case, as no one can but see, that the original conception reaches far beyond these. It would be mistaking the skill of the mechanic for the genius of the inventor.

Upon this doctrine, some of the most brilliant and useful inventions of the day, by men justly regarded as public benefactors, and whose names reflect honor upon their country—the successful application of steam power to the propulsion of vessels and railroad cars—the application of the electric current for the instant communication of intelligence from one extremity of the country to the other—and the more recent, but equally brilliant conception, the propulsion of vessels by the application of the expansibility of heated air, the air supplied from the atmosphere that surrounds them. It would be found, on consulting the system of laws esta-

blished for their encouragement and protection, that the world had altogether mistaken the merit of their discovery; that, instead of the originality and brilliancy of the conception that had been unwittingly attributed to them, the whole of it consisted of some simple mechanical contrivances which a mechanician of ordinary skill could readily have devised. Even Franklin, if he had turned the lightning to account, in order to protect himself from piracies, must have patented the kite, and the thread, and the key, as his great original conception, which gave him a name throughout Europe, as well as at home, for bringing down this element from the heavens, and subjecting it to the service of man. And if these simple contrivances, taken together, and disconnected from the control and use of the element by which the new application, and new and useful result may have been produced, happen to be old and well known, his patent would be void; or if some follower in the track of genius, with just intellect enough to make a different mechanical device or contrivance, for the same control and application of the elements, and produce the same result, he would, under this view of the Patent Law, entitle himself to the full enjoyment of the fruits of Franklin's discovery.

If I rightly comprehend the ground upon which a majority of my brethren have placed the decision, they do not intend to controvert so much the doctrine which I have endeavored to maintain, and which, I think, rests upon settled authority, as the application of it to the particular case. They suppose that the patentees have claimed only the combination of the different parts of the machinery described in their specification, and therefore, are tied down to the maintenance of that as the novelty of their invention. I have endeavored to show, that this is a mistaken interpretation; and that they claim the combination, only, when used to embody and give a practical application to the newly discovered property in the lead, by means of which a new manufacture is produced, namely, wrought pipe out of a solid mass of lead, which, it is conceded, was never before successfully accomplished.

For, these reasons, I am constrained to differ with the judgment they have arrived at, and am in favor of affirming that of the court below."

§ 81. In cases of this class, where the most important part and merit of the invention consists in the conception of the original idea, rather than in the manner in which it is to be carried out, or applied in practice, it is clear that a principle carried into practice by *some* means, constitutes the subject-matter of the patent. Inventions of this class may have a character totally independent of the particular means by which they are applied, although the patentee must have applied the invention by some means; and when he has done so, the imitating that character may be a piracy of that invention, although the means may be very different, and such as in themselves might constitute a distinct or substantial invention.[1] The machinery employed is not of the essence of the invention, but incidental to it.[2] In cases like the foregoing, however, although machinery, apparatus, or other arrangement of matter is not of the essence of the invention, still it is of some importance. But there is another class of cases, where the application of a principle is still more distinctly seen to constitute the subject-matter of the invention, because it requires no peculiar and substantive machinery or apparatus, or composition of matter to give it application.

§ 81 *a*. In these cases, the subject-matter of the invention is an application and adaptation of a natural or known agent, or a known substance or thing, to produce a given effect.[3]

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[1] Webster on the Subject-Matter, &c., p. 18.

[2] Per Eyre, C. J., in Boulton *v.* Bull, 2 H. Bl. 496.

[3] The adaptation of the properties and qualities of a known substance to a particular purpose, for which they had never been known or used before, may be the subject of a patent. As the use of India rubber as a fillet, in cards for carding wool, &c., to receive the teeth, and thereby to give them greater firmness and elasticity than when they are set in leather. See Walton *v.* Potter, Webs. Pat. Cas. 585, 604.

As in Daniell's patent for improvements in dressing woollen cloth, the invention consisted in immersing cloth, manufactured in the usual manner, in hot water; and in Fusell's patent the cloth was subjected to a steam bath with the same object.[1] In Christ's patent for "improvements in copper and other plate printing," the substance of the invention was in the preparation of the paper, and the particular means by which this was effected was by "putting a glazed enamelled surface on the paper by means of white lead and size, whereby the finer lines of the engraving are better exhibited than heretofore."[2] So too, the omission of any ingredient previously used in and considered essential to a particular process or manufacture, constitutes such a change in the series of processes pursued, as to be a new manufacture. As where a patent was taken for "a new and improved method of making and manufacturing double canvas and sail-cloth with hemp and flax, or either of them, without any starch whatever;"[3] and where another invention, for rendering cloth fabrics water proof, consisted in immersing them in

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[1] Webster on the Subject-Matter, &c., p. 22. The latter patent was held an infringement on the former; but both were repealed for want of novelty. *Ibid.*

[2] Sturz *v.* De La Rue, 5 Russ. Ch. R. 322, 324. In this case Lord Lyndhurst, C. B., said: "Copperplate printing consists of processes involving a great variety of circumstances; the paper must be of a particular description; before it is used, it must be damped; it must remain damp a certain time, and must be placed in a certain temperature; the plate must be duly prepared, and duly applied, and various processes must be gone through before the impression is drawn off and brought to a finished state. An improvement in any one of these circumstances, in the preparation of the paper, for instance, in the damping of it, &c., may truly be called *an improvement in copperplate printing.* In this case, the principal part of the improvement relates to the preparation of the paper. It is material to the perfection of the copperplate printing that the lines should be as distinct as possible; and if, by adding any thing to the surface of the paper, more clearness is given to the lines, that is an improvement in copperplate printing."

[3] Campion *v.* Benyon, 4 B. Moore, 71, cited Webster on the Subject-Matter, &c., p. 23, note.

various solutions in a different order from that which had been previously followed, although the same solutions had been previously used.[1]

§ 82. It appears, then, that there is a large class of cases, where improvements or inventions in the mode of producing a particular known effect will be the subject-matter of letters-patent; and another large class of cases, in which the discovery and application of new means of producing an effect before unknown, will also be the subject-matter of a patent. One of these classes embraces all cases of the new application of known agents and things, so as to lead to a change in the series of processes by which the particular effect, result, or manufacture is produced, or by which an entirely new effect, result, or manufacture is produced. The other embraces all cases of the discovery and application of new agents or things, by which a new effect or result is to be produced.[2]

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[1] Halliwell *v.* Dearman, Webs. Pat. Cas. 401, note (*t.*) "The object of the plaintiff's invention was the rendering fabrics water proof, but at the same time leaving such fabrics pervious to air. It appeared that before the plaintiff's patent a solution of alum and soap was made, and the fabric to be rendered water proof was immersed therein. By this means a water-proof surface was produced on the fabric, but it was not of a lasting nature, it wore off. According to the plaintiff's invention, the fabric is immersed first in a mixture of a solution of alum with some carbonate of lime, and then in a solution of soap. The effect is, that by the first immersion every fibre becomes impregnated with the alum, the sulphuric acid of the alum being neutralized by the carbonate of lime, and by the second immersion the oily quality, rendering it repellant of water, is given to every fibre, so that each fibre is rendered water proof, instead of the surface only; but the whole fabric continued pervious to air."

[2] The application of electricity for the transmission of signals or messages, copying impressions and gilding, and the application of light for the purposes of photography, belonging to one or the other of these classes, according to the view taken of the agents made use of, and the result produced. In the case of the electric telegraph, electricity was an agent known before this application; the effect, as produced by electricity, was wholly new. The same

§ 83. In determining whether an alleged invention or discovery is such as will support a patent, the question must often arise, what is meant by the application of a principle? And this question involves two inquiries; first, how must the principle be made use of, and secondly, what must be the result produced?

§ 84. It has already been stated, that the embodiment of a principle, so that it may be in a condition to act and to produce an effect, may be the subject of a patent. There is, in other words, a distinction between the principle that is so embodied, and the principle of such embodiment; the former is a truth of exact science, or a law of matter, or a rule of practice; while the latter is the practice founded on such truth, law, or rule.[1]

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may be said of the use of light in photography, for although pictures existed before, such pictures as are produced by that process, were wholly new. It is not always necessary, perhaps not expedient, to attempt a rigid classification of such inventions. Each is to be tested by the application of general principles to the particular facts of the case. In analyzing the subject-matter of the invention, when it is of this character, we must first determine whether the agents employed are themselves newly discovered, or well known; secondly, whether they are applied in a new method; thirdly, whether they produce, as applied, a new or an old result. According to the results of this analysis, we may determine the patentable character of the invention or discovery.

[1] Webster on the Subject-Matter, p. 44. A clear illustration of this distinction is to be found in the case of Blanchard *v.* Sprague, 3 Sumner's R. 535. The plaintiff's patent was for "An invention of a machine for turning or cutting irregular forms." The plaintiff, in his specification, declared that "as to the mechanical powers by which the movements are obtained, he claims none of them as his invention. These movements may be effected by application of various processes indifferently. Neither does he claim as his invention the cutter wheel, or cutters, or friction wheel as such, nor the use of a model to guide the cutting instrument, as his invention. All these are common property, and have been so for years, but he claims *as his invention the method or mode of operation in the abstract, explained in the second article, whereby the infinite variety of forms, described in general terms in this article may be wrought.*" In another part of his specification he said: "In

§ 85. This practice consists in the application of the principle. But it is not every application of the principle, or every occasion on which the principle can be applied, that can be the subject of a patent. The principle may have been discovered and applied before, and, when this is the case, the new application may be only what is described in the Patent Law as a "double use," which cannot be the subject of a patent. In such cases, there may be in the new application some degree of novelty; something may have been discovered, or found out, that was not known before; but unless the new occasion on which the principle is applied

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explaining and describing the different modes in which he contemplates the application of the principle or character of his said machine or invention, he does this in compliance with the requirements of the law, and not by way of extending his claim for discovery or invention. His invention is described and explained in the second article of this specification, to which reference is hereby made for information of that, which constitutes the principle or character of his machine or invention, and distinguishes it, as he verily believes, from all other machines, discoveries or inventions, known or used before. In the second article, to which he refers, the plaintiff explained the principle and character of his machine, and the mode of constructing it to effect the different objects to be accomplished, and the mode of operation."

Mr. Justice Story said: "Looking at the present specification, and construing all its terms together, I am clearly of opinion, that it is not a patent claimed for a function, but it is claimed for the machine specially described in the specification; that it is not for a mere function, but for a function as embodied in a particular machine, whose mode of operation and general structure are pointed out. In the close of his specification, the patentee explicitly states that his "invention is described and explained in the second article of his specification, to which reference is made for information of that, which constitutes the principle or character of his machine or invention, and distinguishes it, as he verily believes, from all other machines, discoveries or inventions known or used before." Now, when we turn to the second article, we find there described, not a mere function, but a machine of a particular structure, whose modes of operation are pointed out, to accomplish a particular purpose, function or end. This seems to me sufficiently expressive to define or ascertain, what his invention is. It is a particular machine, constituted in the way pointed out, for the accomplishment of a particular end or object. The patent is for a machine, and not for a principle or function detached from machinery."

leads to some kind of new manufacture, or to some new result, it is only a double use of that which was known before.

§ 86. Illustrations of this distinction may be seen in the application of well-known medicines, drugs, and chemical substances, upon new occasions, or for new specific purposes. If it is discovered that a medicine, known and used as a valuable remedy in one class of diseases, has also great efficiency in curing another and different disease, there is a new application of a known thing, but it is only a double use of that thing.[1]

§ 87. In order to escape the objection of a double use, it is necessary that the new occasion or purpose, to which the use of a known thing is applied, should not be merely analogous to the former occasions or purposes to which the same thing has been applied. There is a very material distinction between applying a new contrivance to an old object, and an old contrivance to a new object. The former may be patentable, but the latter cannot be, when the new object is merely one of a class possessing a common analogy. Thus, where a certain description of wheels had been used on other

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[1] In Boulton *v.* Bull, 2 H. Bl. 487, Buller, J., said: — "Suppose the world were better informed than it now is how to prepare Dr. Janes's fever powder, and an ingenious physician should find out that it was a specific cure for a consumption, if given in particular quantities; could he have a patent for the sole use of Janes's powders in consumptions, or to be given in particular quantities? I think it must be conceded that such a patent would be void; and yet the use of the medicine would be new, and the effect of it as materially different from what is now known, as life is from death. So in the case of a late discovery, which, as far as experience has hitherto gone, is said to have proved efficacious, that of the medicinal properties of arsenic in curing agues, could a patent be supported for the sole use of arsenic in aguish complaints? The medicine is the manufacture, and the only object of a patent; and, as the medicine is not new, any patent for it, or for the use of it, would be void."

carriages than railway carriages, Lord Abinger, C. B., held that the plaintiff could not claim a patent merely for the use of such wheels upon railway carriages;[1] and where a patent

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[1] Losh *v.* Hague, Webs. Pat. Cas. 207. In this case his Lordship said to the jury:—"The learned counsel has stated to you, and very properly, and it is a circumstance to be attended to, that Mr. Losh has taken out his patent to use his wheels on railways. Now, he says, the wheels made by Mr. Paton, or by the other workmen who were called as witnesses, were never applied to railways at all. That opens this question, whether or not a man who finds a wheel ready made to his hand, and applies that wheel to a railway, shall get a patent for applying it to a railway. There is some nicety in considering that subject. The learned counsel has mentioned to you a particular case in which an argand lamp, burning oil, having been applied for singing gauze, somebody else afterwards applied a lamp supplied with gas for singing lace, which was a novel invention, and for which an argand lamp is not applicable, because gas does not burn in the same way as oil in an argand lamp. But a man having discovered by the application of gas he could more effectually burn the cottony parts of the gauze by passing it over the gas, his patent is good. (Webs. Pat. Cas. p. 98, Hall's Patent.) That was the application of a new contrivance to the same purpose; but it is a different thing when you take out a patent for applying a new contrivance to an old object, and applying an old contrivance to a new object, that is a very different thing; if I am wrong I shall be corrected. In the case the learned counsel put, he says, if a surgeon goes into a mercer's shop, and sees the mercer cutting velvet or silk with a pair of scissors with a knob to them, he, seeing that, would have a right to take out a patent in order to apply the same scissors to cutting a sore, or a patient's skin. I do not quite agree with that law. I think if the surgeon had gone to him, and said, 'I see how well your scissors cut,' and he said, 'I can apply them instead of a lancet, by putting a knob at the end,' that would be quite a different thing, and he might get a patent for that; but it would be a very extraordinary thing to say that, because all mankind have been accustomed to eat soup with a spoon, that a man could take out a patent because he says you might eat peas with a spoon. The law on the subject is this; that you cannot have a patent for applying a well known thing, which might be applied to fifty thousand different purposes, for applying it to an operation which is exactly analogous to what was done before. Suppose a man invents a pair of scissors to cut cloth with, if the scissors were never invented before, he could take out a patent for it. If another man found he could cut silk with them, why should he take out a patent for that? I must own, therefore, that it strikes me if you are of opinion this wheel has

claimed, as the invention of the patentee, a process of curling palm leaf for mattresses, but it appearing that hair had long been prepared by the same process for the same purpose, Mr. Justice Story held it to be a mere double use of an old process.[1]

§ 88. When, therefore, the principle is well known, or the application consists in the use of a known thing to produce a particular effect, the question will arise, whether the effect is of itself entirely new, or whether the occasion only upon which the particular effect is produced, is new. If the occasion only is new, then the use to which the thing is applied

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been constructed, according to the defendant's evidence, by the persons who have been mentioned, long before the plaintiff's patent, that, although there were no railroads then to apply them to, and no demand for such wheels, yet that the application of them to railroads afterwards, by Mr. Losh, will not give effect to his patent, if part of that which is claimed as a new improvement by him is, in fact, an old improvement, invented by other people, and used for other purposes. That is my opinion on the law, and on that I am bound to direct you substantially."

[1] Howe *v.* Abbott, 2 Story's R. 190, 193. In this case the learned Judge said: — "In the first place, it is admitted on all sides that there is no novelty in the process by which the stripping, or twisting, or curling the palm leaf is accomplished. The same process of twisting, and curling, and baking, and steaming, has long been known and used in respect to hair used for beds, mattresses, sofas, and cushions. It is, therefore, the mere application of an old process and old machinery to a new use. It is precisely the same as if a coffee-mill were now, for the first time, used to grind corn. The application of an old process to manufacture an article, to which it had never before been applied, is not a patentable invention. There must be some new process, or some new machinery used, to produce the result. If the old spinning machine to spin flax were now first applied to spin cotton, no man could hold a new patent to spin cotton in that mode; much less the right to spin cotton in all modes, although he had invented none. As, therefore, Smith has invented no new process or machinery, but has only applied to palm leaf the old process and the old machinery used to curl hair, it does not strike me that the patent is maintainable. He who produces an old result by a new mode or process, is entitled to a patent for that mode or process. But he cannot have a patent for a result merely, without using some new mode or process to produce it."

is simply analogous to what had been done before. But if the effect itself is new, then there are no known analogous uses of the same thing, and the process may constitute such an art as will be the subject of a patent. Thus, the use of scissors to cut one substance produces a particular effect, entirely analogous to that produced when they are used to cut another substance; the effect, therefore, is not new. But the use of gas to singe off the superfluous fibres of lace, was the use of an agent for a purpose not analogous to any other purpose for which the same agent had ever been used before; and therefore the effect, as produced by that agent, was new. Great discrimination, however, is to be used, in determining whether the analogy is such as to justify the inference, that the occasion only is new, and that the effect is not new. Of course, if any new contrivances, combinations, or arrangements are made use of, although the principal agents employed are well known, those contrivances, combinations, or arrangements, may constitute a new principle, and then the application or practice will necessarily be new also.[1] But where there is no novelty in the preparation or arrangement of the agent employed, and the novelty professedly consists in the application of that agent, being a well known thing; or, in other terms, where it consists in the practice only, the novelty of that practice is to be determined according to the circumstances, by applying the test, of whether the result or effect produced is a new result or effect, never before produced.[2] If a new manufacture is produced, or if

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1 As where anthracite and hot-air blast were used in the manufacture of iron, in the place of bituminous coal and hot-air blast; and where sail-cloth was made, with the omission of an ingredient before used, that is, by a different combination from that before used.

2 As in the case of the application of bells to fire-engines, to be rung by the motion of the carriage, for the purpose of alarms or notice, which Washington, J., instructed the jury might be a subject for a patent. Park *v.* Little, 3 Wash. 196. The application of steam for propelling boats is another illustration of novelty in practice. Ibid.

an old manufacture is produced by new means, then the result or effect is new, as produced by that particular means, and the new case is such as can be protected by letters-patent. But if only an old manufacture is produced, or an old result is attained, by means analogous to what the same means have produced when applied the same way in other cases, the new occasion of using those means does not constitute a case that can be protected by a patent.

§ 89. Our statute having undertaken to classify the subjects of patents under four general heads, we may here state what is supposed to be embraced in each of them.

§ 90. I. AN ART. The first subject of a patent mentioned in the statute is "any new and useful art," or "any new and useful improvement of an art." This term embraces the useful as distinguished from the fine arts. It applies to all those cases, where the application of a principle is the most important part of the invention, and where the machinery, apparatus or other means by which the principle is applied, is incidental only and not of the essence of the invention. It applies also to all those cases where the result, effect, or manufactured article is old, but the invention consists in a new process or method of producing such result, effect or manufacture. But where machinery or apparatus of any kind is the chief subject of invention, or where the result, effect, or article produced is new, the subject of the patent will fall under one or the other of the classes designated in the statute as "machine," "manufacture," or "composition of matter," according to its principal characteristics and objects.

§ 91. A case which occurred before Mr. Justice Washington furnishes an illustration of an "art," as the subject of a patent. The plaintiff alleged himself to be the inventor of a new and useful improvement in the printing of bank-notes, which was said to furnish an additional security against counterfeiting. The invention, as summed up in his speci-

fication, was "to print copperplate on both sides of the note or bill; or copperplate on one side, and letter-press on the other; or letter-press on both sides of a bank-note or bill, as an additional security against counterfeiting." The art of printing with both letter-press and copperplate, was not the invention of the plaintiff. He made use of old materials and processes, in a new manner, for the purpose of producing a new effect, namely, a new security against counterfeiting. His patent, therefore, was for the new application of the process of printing by copperplate and letter-press, by printing on both sides of the note; and this new application was held by the court to be an art within the terms of the statute.[1]

§ 92. Another illustration is presented by a patent for a mode of casting iron rollers or cylinders, so that when the metal was introduced into the mould, it should receive a rotary motion, by which the dross would be thrown into the centre instead of upon the surface of the cylinder. This was effected solely by changing the direction of the tube which conveyed the metal to the mould, from a horizontal or perpendicular position to a direction approaching a tangent of the cylinder.[2]

§ 93. II. A MACHINE. A machine, to be the subject of a patent, must be a particular construction of mechanism, containing the improved method of producing an old effect, or the method of producing a new effect. If the subject of the invention or discovery is not a mere function, but a function embodied in some particular mechanism whose mode of operation and general structure are pointed out, and which is designed to accomplish a particular purpose, function, or effect, it will be a machine, in the sense of the patent law.[3] A

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[1] Kneass *v.* The Schuylkill Bank, 4 Wash. 9, 12.

[2] McClurg *v.* Kingsland, 1 Howard, 204. See also Gray *v.* James, Peters's Circ. C. R. 394.

[3] Blanchard *v.* Sprague, 3 Sumner's R. 535, 540.

machine is rightfully the subject of a patent, when well-known effects are produced by machinery entirely new in all its combinations, or when a new or an old effect is produced by mechanism, of which the principle or *modus operandi* is new.[1] The word "machine" in the statute, includes new combinations of machines, as well as new organizations of mechanism for a single purpose. There may be a patent for a new combination of machines to produce certain effects, whether the machines constituting the combination be new or old. In such cases, the thing patented is not the separate machines, but the combination.[2] A single instance of such a combination is presented by the telescope, in which a convex and concave glass of different refracting powers are combined to make the object-glass.[3] What constitutes a claim for a combination only, and what will be a claim for the specific parts of a machine, as well as for the combination, is a question of construction on the patent and specification, the rules for which will be stated hereafter. But it is proper here to state the general principles applicable to combinations as the subject-matter.

§ 94. Where the invention consists of several distinct and independent improvements in the same machine, a patent may be taken for them in the aggregate, and such a patent will protect each of the improvements. But when the patent is for a new combination of existing machinery or machines, and does not specify or claim any improvements or inventions, except the combination, the subject-matter of the patent

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[1] Whittemore *v.* Cutter, 1 Gallis. 480; Boulton *v.* Bull, 2 H. Bl. 463, 468. When a mode of doing a thing is referred to something permanent, it is properly termed an engine; when to something fugitive, a method. Per Heath, J., in Boulton *v.* Bull.

[2] Barrett *v.* Hall, 1 Mas. 474; Evans *v.* Eaton, 3 Wheat. 454, 476, 506; Prouty *v.* Draper, 1 Story's R. 568; Park *v.* Little, 3 Wash. 196; Pitts *v.* Whitman, 2 Story's R. 609; Ames *v.* Howard, 1 Sumner, 482.

[3] Dolland's case, Webs. Pat. Cas. 42, 43.

will be the combination alone, and the making of the separate machines will not be an infringement of it.[1]

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[1] In Barrett *v.* Hall, 1 Mas. 447, 474, Mr. Justice Story laid down the doctrine thus: "A patent may be for a new combination of machines to produce certain effects; and this, whether the machines, constituting the combination, be new or old. But in such case, the patent being for the combination only, it is no infringement of the patent to use any of the machines separately, if the whole combination be not used; for in such case the thing patented is not the separate machines, but the combination; and the statute gives no remedy, except for a violation of the thing patented. This was the doctrine of Mr. Justice Washington in his most able opinion in Evans *v.* Eaton; and it has not been in the slightest degree shaken in the Supreme Court. (Evans *v.* Eaton, 3 Wheaton's R. 454, 476, 506.) I hesitate not one moment in adopting it, as established on solid foundations. It has, indeed, been said, that where there is a patent for the whole of a machine, whoever imitates it, either in whole or in part, is subject to an action at the suit of the patentee. (Bovill *v.* Moore, 2 Marsh. R. 211.) But supposing this doctrine to be true in any case and under any qualifications (which may well be doubted) it can apply only where the whole machine is entirely new, and cannot apply where the patent is limited, by its very terms, to the combination of several machines." In the subsequent case of Moody *v.* Fisk, 2 Mas. 115, 117, the same learned judge said: "Where the patent goes for the whole of a machine as a new invention, and the machine is in its structure substantially new, any person who pirates a part of the machine, substantially new in its structure, deprives the inventor so far of his exclusive right in his invention, and may in a great measure destroy the value of the patent. Where the patent is for several distinct improvements in an existing machine, or for an improved machine, incorporating several distinct improvements, which are clearly specified, then if a person pirates one of the improvements, he violates the exclusive right of the patentee, for the patent is as broad as the invention, and the invention covers all the improvements; and it is a wrong done to the patentee to deprive him of his exclusive right in any of his improvements. Where a patent is for a *new combination* of existing machinery, or machines, and does not specify or claim any improvements or invention, except the combination, unless that combination is substantially violated, the patentee is not entitled to any remedy, although parts of the machinery are used by another, because the patent, by its terms, stands upon the *combination* only. In such a case, proof that the machines, or any part of their structure existed before, forms no objection to the patent, unless the *combination* has existed before, for the reason, that the invention is limited to the combination. And yet if the combination be not wholly

§ 95. The statute also makes a new and useful "improvement" of a machine the subject of a patent. A patent for the improvement of a machine is the same thing as a patent for an improved machine.[1] Improvement, applied to machinery, is where a specific machine already exists, and an addition or alteration is made, to produce the same effects in a better manner, or some new combinations are added, to produce new effects.[2] In such cases, the patent can only be for the improvement, or new combination.[3] The great question, of course, when an alleged invention purports to be an improvement of an existing machine, is to ascertain whether it be a real and material improvement, or only a change of form. In such cases, it is necessary to ascertain, with as much accuracy as the nature of such inquiries admits, the boundaries between what was known and used before, and what is new, in the *mode of operation*.[4] The inquiry therefore must be, not whether the same elements of motion, or the same component parts are used, but whether the given

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new, but up to a certain point has existed before, and the patentee claims the whole combination as new, instead of his own improvements only, as by taking out a patent for the whole machine, doubtless his patent is void, for it exceeds his invention. (Bovill *v.* Moore, 2 Marsh. R. 211; Davies on Pat. 361, 398, 404, 411.) But if there be different and distinct improvements constituting parts of the combination, which are specified as such in the patent and specification, and any one of them be pirated, the same rule seems to apply, as in other cases where part of an invention is pirated, for the patent then shows that the invention is not limited to the mere combination, but includes the particular improvements specified." See also Evans *v.* Eaton, 1 Peters's Circ. C. R. 343; Evans *v.* Eaton, 3 Wheat. 454, 476, 506; Prouty *v.* Draper, 1 Story, 568; Prouty *v.* Ruggles, 16 Peters, 336; Howe *v.* Abbott, 2 Story's R. 190; Bean *v.* Smallwood, 2 Story's R. 408.

[1] Per Heath, J., in Boulton *v.* Bull, 2 H. Bl. 463, 482; and per Story, J., in Barrett *v.* Hall, 1 Mas. 475.

[2] Whittemore *v.* Cutter, 1 Gallis. 480.

[3] Ibid; Odiorne *v.* Winkler, 2 Gallis. 51.

[4] Whittemore *v.* Cutter, 1 Gallis. 478, 481. Whether an improvement is trifling and insignificant, or real and important, is a question for the jury. Losh *v.* Hague, Webs. Pat. Cas. 205.

effect is produced substantially by the same mode of operation and the same combination of powers, in both machines; or whether some new element, combination, or feature has been added to the old machine, which produces either the same effect in a cheaper or more expeditious manner, or an entirely new effect, or an effect that is in some material respect superior, though in other respects similar to that produced by the old machine.[1]

§ 96. This inquiry will therefore often involve the question, whether the alleged improved machine operates upon the same principle as the former machine; or, in other terms, whether it produces the same effect by the same mechanical means, or by means which are substantially the same. One machine may employ the same mechanical power in the same way as another machine, though the external mechanism may be apparently different. At the same time a machine may have an external resemblance to another, and yet may operate upon a different principle.[2] It is therefore necessary, where the effect is the same, to determine whether the *modus operandi*, the peculiar device or manner of producing the effect,

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[1] Whittemore *v.* Cutter, 1 Gallis. 478; Brunton *v.* Hawkes, 4 B. & Ald. 540.

[2] Barrett *v.* Hall, 1 Mas. 470. In this case, Mr. Justice Story said, "The true legal meaning of the principle of a machine, with reference to the Patent Act, is the peculiar structure or constituent parts of such machine. And, in this view, the question may be very properly asked, in cases of doubt or complexity, of skilful persons, whether the principles of two machines be the same or different. Now, the principles of two machines may be the same, although the form or proportions may be different. They may substantially employ the same power in the same way, though the external mechanism be apparently different. On the other hand, the principles of two machines may be very different, although their external structure may have great similarity in many respects. It would be exceedingly difficult to contend, that a machine which raised water by a lever, was the same in principle with a machine, which raised it by a screw, a pulley or a wedge, whatever in other respects might be the similarity of the apparatus."

is substantially the same. Where the effect is different, the test of a sufficient "improvement," to sustain a patent will be the character and importance of the effect itself.[1]

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[1] Whittemore *v.* Cutter, 1 Gallis. 478, 479, 480, 481. In this case the same learned judge remarked, "It is difficult to define the exact cases when the whole machine may be deemed a new invention, and when only an improvement of an old machine; the cases often approach very near to each other. In the present improved state of machinery, it is almost impracticable not to employ the same elements of motion, and in some particulars, the same manner of operation to produce any new effect. Wheels, with their known modes of operation and known combinations, must be of very extensive employment in a great variety of new machines, and if they could not, in the new invention, be included in the patent, no patent could exist for a whole machine embracing such mechanical powers.

Where a specific machine already exists, producing certain effects, if a mere addition is made to such machine *to produce the same effects* in a better manner, a patent cannot be taken for the whole machine, but for the improvement only. The case of a watch is a familiar instance. The inventor of the patent lever, without doubt, added a very useful improvement to it; but his right to a patent could not be more extensive than his invention. The patent could not cover the whole machine as improved, but barely the actual improvement. The same illustration might be drawn from the steam-engine, so much improved by Messrs. Watt and Boulton. In like manner, if to an old machine, some new combinations be added, to produce *new effects*, the right to a patent is limited to the new combinations. A patent can, in no case, be for an effect only, but for an effect produced in a given manner, or by a peculiar operation. For instance, no patent can be obtained for the admeasurement of time, or the expansive operation of steam; but only for a new mode or new application of machinery to produce these effects; and, therefore, if new effects are produced by an old machine in its unaltered state, I apprehend that no patent can be legally supported; for it is a patent for an effect only.

On the other hand, if *well-known effects* are produced by machinery in all its combinations *entirely new*, a patent may be claimed for the whole machine. So, if the principles of the machine are new, either to produce a new or an old effect, the inventor may well entitle himself to the exclusive right of the whole machine. By the principle of a machine, (as these words are used in the statute) is not meant the original elementary principles of motion, which philosophy and science have discovered, but the *modus operandi*, the peculiar device or manner of producing any given effect. The expansive powers of steam, and the mechanical powers of wheels, have been understood for many ages; yet a machine may well employ either the one or the other, and

§ 97. There may be a patent for an improvement of a machine that is itself the subject of an existing patent. It has been held in England, that a patent including the subject-matter of a patent still in force, is valid, if the improvement only is claimed in the specification. In such cases, the new patent will come into force, after the expiration of the old one, or it may be applied by using a license under the former patent, or by purchasing the specific machine which the former patent covers, before the expiration of the latter.[1]

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yet be so entirely new, in its mode of applying these elements, as to entitle the party to a patent for his whole combination. The intrinsic difficulty is to ascertain, in complicated cases like the present, the exact boundaries between what was known and used before, and what is new, *in the mode of operation.*

The present machine is to make cotton and woolen cards. These were not only made before the present patent, by machinery, but also by machinery, which, at different times, exhibited very different stages of improvement. The gradual progress of the invention, from the first rude attempts to the present extraordinary perfection, from the slight combination of simple principles to the present wonderful combinations, in ingenuity and intricacy scarcely surpassed in the world, has been minutely traced by the witnesses on the stand.

The jury then are to decide, whether the principles of Mr. Whittemore's machine are altogether new, or whether his machine be an improvement only on those which have been in use before his invention. I have before observed, that the principles are *the mode of operation.* If the same effects are produced by two machines by the same mode of operation, the principles of each are the same. If the same effects are produced, but by combinations of machinery operating substantially in a different manner, the principles are different."

[1] Crane *v.* Price, Webs. Pat. Cas. 393, 413. In this case, Sir W. C. Tindall, C. J., said, "Now, it is further argued, that in point of law, no patent can be taken out which includes the subject-matter of a patent still running or in force. No authority was cited to support this proposition, and the case which was before Lord Tenterden, and in which he held, that where an action was brought for an infringement of improvements in a former patent granted to another person, and still in force, that the plaintiff must produce the former patent and specification; that at least affords a strong evidence that the second patent was good. (Lewis *v.* Davis, 3 Car. & P. 502.) The case of *Harmar* v. *Playne,* (14 Ves. jr., 130; 11 East, 101; Dav. Pat. Cas. 311; Fox, *ex parte,* 1 Ves. & B. 67,) is a clear authority on the same point;

§ 98. It has also been held, that in an action for an infringement of a patent professing to be an improvement on a former patent, the specification of that former patent must be read. But it is not material whether a machine, made according to that specification of the first patent, would be useful or not, if it be shown that a machine, constructed according to the subsequent patent, is useful.[1]

§ 99. In all cases of alleged improvements in machinery the test of sufficiency may be found in the dictum of Buller, J., that, "if there be any thing material and new, that will be an improvement of the trade, that will be sufficient to support a patent."[2]

§ 100. III. A MANUFACTURE. It has been stated in a former

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and upon reason and principle there appears to be no objection. The new patent, after the expiration of the old one, will be free from every objection, and whilst the former exists, the new patent can be legally used by the public by procuring a license from Neilson, or by purchasing the apparatus from him, or some of his agents; and the probability of a refusal of the license to any one applying for it, is so extremely remote, that it cannot enter into consideration as a ground of legal objection."

See also Fox, *ex parte*, 1 V. & B. 67. Mr. Webster puts this very clear illustration: "For suppose a particular article, starch for instance, to be the subject of letters-patent, and that all the starch in the country was patent starch; there are attached to the making and selling of that article certain exclusive privileges; but the individual who has purchased it of the patentee has a right to sell it again, and to use it at his will and pleasure; the exclusive privileges are in respect of that particular portion of the article so sold, at an end, and do not pursue it through any subsequent stage of its use and existence, otherwise every purchaser of starch would be obliged, according to the terms of the letters-patent, to have a license in writing, under the hand and seal of the patentee; the absurdity of which is manifest. Hence it is obvious, that if a person legally acquires, by license or purchase, title to that which is the subject of letters-patent, he may use it or improve upon it in whatever manner he pleases; in the same manner as if dealing with property of any other kind."

[1] Lewis *v.* Davis, Webs. Pat. Cas. 488, 489.

[2] The King *v.* Arkwright, Webs. Pat. Cas. 71.

part of this chapter, that the term "manufacture" was used in the English statute, 21 Jac. 1, to denote any thing made by the hand of man; so that it embraces, in the English law, machinery, as well as substances or fabrics produced by art and industry.[1]

§ 101. We have seen also that it came, by construction, to include the process of making a thing, or the art of carrying on a manufacture; so that all the various objects, which are now held in England to be the subjects of letters-patent, are

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[1] In Boulton *v.* Bull, Heath, J., said, "The statute 21 Jac. 1, prohibits all monopolies, reserving to the king, by an express proviso, so much of his ancient prerogative as shall enable him to grant letters-patent, and grants of privilege, for the term of fourteen years and under, of the sole working or making of any manner of *new manufactures* within this realm, to the true and first inventor and inventors of such *manufactures*. What then falls within the scope of the proviso? Such manufactures as are reducible to two classes. The first includes machinery, the second substances, (such as medicines) formed by chemical and other processes, where the vendible substance is the thing produced, and that which operates preserves no permanent form. In the first class the machine, and in the second the substance produced, is the subject of the patent. I approve of the term *manufacture*, in the statute, because it precludes all nice refinements; it gives us to understand the reason of the proviso, that it was introduced for the benefit of trade. That which is the subject of a patent, ought to be specified, and it ought to be that which is vendible, otherwise it cannot be a manufacture."

In Hornblower *v.* Boulton, 8 T. R. 99, Lord Kenyon defined the term as "something made by the hands of man." In the King *v.* Weeler, 2 B. & Ald. 349, Abbott, L. C. J., defined it thus: "The word 'manufactures' has been generally understood to denote either a thing made, which is useful for its own sake, and vendible as such, as a medicine, a stove, a telescope and many others, or to mean an engine or instrument, or some part of an engine or instrument, to be employed, either in the making of some previously-known article, or in some other useful purpose, as a stocking-frame, or a steam-engine for raising water from mines. Or it may perhaps extend also to a new process to be carried on by known implements, or elements, acting upon known substances, and ultimately producing some other known substance, by producing it in a cheaper or more expeditious manner, or of a better and more useful kind."

included under this term, which alone saves them out of the prohibition of the statute of monopolies.[1]

§ 102. Our statute, however, having made an enumeration of the different classes of subjects which in England are held to be patentable, it is to be presumed that this term was used to describe one of these classes only, namely, fabrics or substances made by the art or industry of man, not being machinery.[2] It may sometimes require a nice discrimination, to determine whether one of these classes does not run into the other, in a given case; as for instance, when a tool or instrument of a novel or improved construction is produced, to be used in connection with other machinery, or to be used separately. As an article of merchandise, found and sold separately in the market, such a production would be a manufacture; but regarded with reference to its use and intended adaptation, it might be considered as a machine, or part of a machine. In determining, in such cases, how the patent for the article should be claimed, it would probably be correct to range it under the one or the other of these classes, according to the following test. If the article is produced and intended to be sold and used separately, as a merchantable commodity, and the merit of it, as an invention, consists in its being a

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[1] Ante, § 69, 71, 72, 73, 74. See also Hindmarch on Patents, p. 80.

[2] Perhaps the best general definition of the term "manufacture," as the subject of a patent, would be any new combination of old materials, constituting a new result or production, in the form of a vendible article, not being machinery. In one sense, all materials are old; as the amount of matter in existence does not depend on the will or the skill of man, whatever he uses is, in one sense, an old material. In this sense, therefore, all that he does, in producing a new manufacture, is to bring old materials into a new combination, and by so doing to produce a new result in matter. It is this new combination, carried into, or evinced by, a new result or production, that is the subject of a patent. The use of all the materials in other combinations may have been known before; but if they are used in a new combination, producing a new result, there will be a good subject for a patent for a "manufacture," as there is in respect to "machinery" when the same thing is effected. See Cornish *v.* Keene, Webs. Pat. Cas. 512, 517.

better article than had been before known, or in its being produced by a cheaper process, then it may properly be considered simply as a manufacture. But if its merit appears only after its incorporation with some mechanism with which it is to be used, and consists in producing, when combined with such mechanism, a new effect, then it should be regarded as a machine, or an improvement of an existing machine. These distinctions, however, are not vitally important to be taken in the patent itself, since it is not necessary to the validity of a patent, that the thing should be described with entire accuracy as "a machine" or "a manufacture." If the thing itself is correctly described, and it appears to be novel and useful, and unites all the other requisites of the statute, it may be left to general interpretation to determine whether the subject-matter ranges itself under the one or the other of these classes, or whether it partakes of the characteristics of both. But if the subject-matter be neither a machine, nor a manufacture, or composition of matter, then it must be an art. There can be no valid patent, except it be for a thing made, or for the art or process of making a thing.

§ 103. IV. A COMPOSITION OF MATTER. The last class of patentable subjects mentioned in the statute is described by the term "composition of matter." It includes medicines, compositions used in the arts, and other combinations of substances intended to be sold separately. In such cases, the subject-matter of the patent may be either the composition itself, the article produced, or it may be the mode or process of compounding it. Generally speaking, the patent covers both, because if the composition is itself new, the process by which it is made must also be new, and the law will protect both as the subjects of invention. But if the article itself be not new, but the patentee has discovered merely a new mode or process of producing it, then his patent will not be for a new "composition of matter," but for a new "art" of making that particular thing.

§ 104. With regard to this class of subjects, it is sufficient

to observe, that the test of novelty must, of course, be, not whether the materials of which the composition is made, are new, but whether the combination is new. Although the ingredients may have been in the most extensive and common use, for the purpose of producing a similar composition, if the composition made by the patentee is the result of different proportions of the same ingredients, or of the same and other ingredients, the patent will be good.[1] The patentee is not confined to the use of the same precise ingredients in making his compound, provided all the different combinations of which he makes use are equally new.[2]

§ 105. A new class of objects has, by a recent statute, been made the subjects of letters-patent. These are new and original *Designs* for a manufacture of metal and other materials; for the printing of woollen, silk, cotton, or other fabrics; for busts, statues, or bas-relief, or composition in alto or basso-relievo; for any impression or ornament, or to be placed on any article of manufacture in marble or other material; for any new and useful pattern, print, or picture, to be in any manner attached to, or fixed on any article of manufacture; for any new or original shape or configuration of any article or manufacture; all such designs not being previously known or used by others. Patents for these subjects are to be issued on the like application and proceedings, as those prescribed in other cases of patents, for the term of seven years, and on payment of one half the fee required by the general Patent Act.[3]

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[1] Ryan *v.* Goodwin, 3 Sumner's R. 514, 518.

[2] Ibid.

[3] Act of Cong. Aug. 29, 1842, § 3, 5. This is an act in addition to the general Patent Act of 1836; but the 5th section provides an action for penalties, for the infringement of this class of patentable subjects, in place of the action for damages provided in respect of other patents by the Act of 1836. The remedy in equity, by injunction, is not expressly granted; but it exists undoubtedly, both by force of the provision in the Act of 1836, § 17, and of the general principles of Equity Jurisprudence.

§ 106. The patents thus granted relate to the forms impressed upon the material constituting particular articles of manufacture, and to the marks adopted by tradesmen, whether patterns, prints, or pictures, to distinguish their own manufactures. They thus occupy a kind of middle ground between copyrights and patents, as patents for useful inventions have hitherto been classed. Indeed, the exclusive right to impress upon matter a particular form, or to affix a particular device to a bale of merchandise, is very closely analogous to the exclusive right to print a particular book or engraving, if it is not precisely the same right. The same general principles, at least, must be resorted to, to determine the identity between two forms of matter, as forms, or between two devices, as devices, which determine the identity of two books or engravings. The leading principle, in such comparisons, is that which shows that the one thing is a colorable imitation of another, when there is not an exact resemblance; and although this principle has its place in that system of Patent Law, which is applied to machinery, arts, manufactures, or compositions of matter, it is more fully developed and of more frequent application in the law of copyright, as applied to books and engravings.[1]

[1] These principles may be found developed in a work in which I have endeavored to state the Law of Copyright.

CHAPTER III.

UNITY OF THE SUBJECT-MATTER.

§ 107. The several Acts of Congress on the subject of Patents, evidently require that the subject-matter of a patent should be one invention or discovery. The Act of 1836, c. 357, § 6, speaks of an invention or discovery as the subject of a patent, and not of inventions or discoveries; and throughout this and the subsequent statutes, the subject-matter is always described or referred to in the singular and not in the plural. It is, therefore, an important inquiry, how far several distinct things can be made the subject of one patent.

§ 108. In the first place, it is manifest that where there are two distinct and independent inventions, which have no necessary connection with each other, but which are applicable to different objects and purposes, they cannot be united in one patent; for the statute affords no warrant for including more than one subject-matter in one patent. In the second place, if two distinct subject-matters could be included in one patent, great inconvenience and confusion would arise, both to the patentee and the public, from the application of the rule of law which renders void the whole patent, where a part of the subject-matter turns out not to be original. Still, these positions do not determine when several apparently distinct objects constitute one subject-matter; or whether there is any leading principle which will enable us to draw the line between one collection of objects as constituting one subject-matter, and another collection of objects as constituting more than one subject-matter.

§ 109. The object which the inventor proposes to accomplish will always be the main guide, by which to determine

whether his subject-matter is a unit or not. It may consist of several distinct inventions, or several machines capable of useful operation separately; but if the inventor has brought them together for a purpose which can only be effected by their union, that purpose indicates the true character of the subject-matter, when they are included in one patent, which goes for the accomplishment of that purpose. But if the patent goes for the combination, or the purpose to be effected by the several inventions united in one operation, and also goes for the distinct purposes which each invention is, by itself, capable of effecting, it is clear that several subject-matters are embraced in one patent.[1]

§ 110. If, indeed, the patentee describes several distinct and independent parts of an invention, which are intended to be used in combination, and he is the first and original inventor of each of them, his patent will cover all the parts as well as the combination, and the use of any one of them by another person, will be an infringement. But where the patentee is not the inventor of the several things used in the combination, but the combination itself is the true subject-matter of his patent, then the use of any number of those things not amounting to the same combination, is no infringement.[2]

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[1] In Barrett *v.* Hall, 1 Mas. 447, 475, Mr. Justice Story laid down the doctrine thus: "A patent under the general Patent Act, cannot embrace various distinct improvements or inventions; but in such case the party must take out separate patents. If the patentee has invented certain improved machines, which are capable of a distinct operation, and also has invented a combination of those machines to produce a connected result, the same patent cannot at once be for the combination and for each of the improved machines; for the inventions are as distinct as if the subjects were entirely different. A very significant doubt has been expressed on this subject by the Supreme Court; and I am persuaded that the doubt can never be successfully removed." See Evans *v.* Eaton, 3 Wheat. 454, 506.

[2] In Moody *v.* Fiske, 2 Mas. 112, 117, the same learned judge said: 'Where the patent goes for the whole of a machine as a new invention, and

§ 111. It has also been held that a patent may be taken for several improvements on one and the same machine, or for

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the machine is in its structure substantially new, any person who pirates a part of the machine, substantially new in its structure, deprives the inventor so far of his exclusive right in his invention, and may, in a great measure, destroy the value of the patent. When the patent is for several improvements in an existing machine, or for an improved machine, incorporating several distinct improvements, which are clearly specified, then if a person pirates one of the improvements, he violates the exclusive right of the patentee, for the patent is as broad as the invention, and the invention covers all the improvements; and it is a wrong done to the patentee to deprive him of his exclusive right in any of his improvements. Where the patent is for a *new combination* of existing machinery, or machines, and does not specify or claim any improvement or invention, except the combination, unless that combination is substantially violated, the patentee is not entitled to any remedy, although parts of the machinery are used by another, because the patent, by its terms, stands upon the *combination* only. In such a case, proof that the machines, or any part of their structure existed before, forms no objection to the patent, unless the *combination* has existed before, for the reason, that the invention is limited to the combination. And yet if the combination itself be not wholly new, but, up to a certain point, has existed before, and the patentee claims the whole combination as new, instead of his own improvements only, as by taking out a patent for the whole machine, doubtless his patent is void, for it exceeds his invention. But if there be different and distinct improvements constituting parts of the combination, which are specified as such in the patent and specification, and any one of them be pirated, the same rule seems to apply as in other cases where part of an invention is pirated, for the patent then shows that the invention is not limited to the mere combination, but includes the particular improvements specified.

It is often a serious difficulty, from the obscure language of the specification, to ascertain what is the nature and extent of the invention claimed by the patentee. Whether his patent be valid or not, must materially depend upon the accuracy and distinctness with which the invention is stated. But in all cases where the patentee claims any thing as his own invention, in his specification, courts of law cannot reject the claim; and if included in the patent, and found not to be new, the patent is void, however small or unimportant such asserted invention may be. This leads me to the first point made at the bar; as to which, it appears to me clear, both upon principle and authority, that where a patentee in his specification states and sums up the particulars of his invention, and his patent covers them, he is confined to

two machines, which are invented by the patentee, and conduce to the same common purpose and object, although they are capable of a distinct use and application, without being united together.[1] But a patent cannot be taken for two distinct

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such summary; and he cannot afterwards be permitted to sustain his patent by showing that some part which he claims in his summing up as his invention, though not in fact his invention, is of slight value or importance in his patent. His patent covers it; and if it be not new, the patent must be void. Here the plaintiff claims a particular position of machinery as his invention, and it clearly appears in evidence, that the position is not new. It has existed before, not in machines exactly like the present, but in machines applied to analogous purposes, viz., in machines for roping cotton; and applied for the same purpose as the plaintiff applies them. Without doubt, he supposed that he was the first inventor, but that was his mistake, and will not help the case. The objection therefore is fatal. I wish it to be understood in this opinion, that though several distinct improvements in one machine may be united in one patent, it does not follow that several improvements in two different machines, having distinct and independent operations, can be so included. Much less that the same patent may be for a *combination* of different machines, and for distinct improvements in each."

[1] In Hogg *v.* Emerson, 11 Howard, 587, 605, where a patent was issued for an improvement in the steam-engine "in the mode of propelling therewith either vessels on the water, or carriages on the land," and it was objected that it covered distinct machines, the Supreme Court of the United States said: "But grant that such is the result when two or more inventions are entirely separate and independent, — though this is doubtful on principle, — yet it is well settled in the cases formerly cited, that a patent for more than one invention is not void, if they are connected in their design and operation. This last is clearly the case here. They all here relate to the propelling of carriages and vessels by steam, and only differ, as they must, on water from what they are on land, a paddle-wheel being necessary on the former and not on the latter, and one being used on the former which is likewise claimed to be an improved one. All are a part of one combination when used on the water, and differing only as the parts must when used to propel in a different element.

In Wyeth *v.* Stone, 1 Story, 288, in order to render different letters-patent necessary, it is said, the inventions must be 'wholly independent of each other, and distinct inventions for unconnected objects;' as one to spin cotton, and 'another to make paper.'

Again, if one set of letters-patent is permissible for one combination consisting of many parts, as is the daily practice, surely one will amply suffice for two or three portions of that combination."

machines not conducing to the same common purpose or object, but designed for totally distinct and independent objects.[1]

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[1] In Wyeth *v.* Stone, 1 Story's R. 273, 287, Mr. Justice Story said: "But it has been said, that if each of the machines patented is independent of the other, then separate patents should have been taken out for each; and that they cannot both be joined in one and the same patent; and so there is a fatal defect in the plaintiff's title. And for this position the doctrine stated in Barrett *v.* Hall, 1 Mason, R. 473, and Evans *v.* Eaton, 3 Wheat. R. 454, 506, (see also Phillips on Patents, pp. 214, 215, 216,) is relied on. I agree, that under the general Patent Acts, if two machines are patented, which are wholly independent of each other, and distinct inventions, for unconnected objects, then the objection will lie in its full force, and be fatal. The same rule would apply to a patent for several distinct improvements upon different machines, having no common object or connected operation. For, if different inventions might be joined in the same patent for entirely different purposes and objects, the patentee would be at liberty to join as many as he might choose, at his own mere pleasure, in one patent, which seems to be inconsistent with the language of the Patent Acts, which speak of the thing patented, and not of the things patented, and of a patent for an invention, and not of a patent for inventions; and they direct a specific sum to be paid for each patent. Besides, there would arise great difficulty in applying the doctrine of the common law to such cases. Suppose one or more of the supposed inventions was not new, would the patent at the common law be void in toto, or only as to that invention, and good for the rest? Take the case of a patent for ten different machines, each applicable to an entirely different object, one to saw wood, another to spin cotton, another to print goods, another to make paper, and so on; if any one of these machines were not the invention of the patentee, or were in public use, or were dedicated to the public, before the patent was granted, upon the doctrines of the common law, the patent would be broader than the invention, and then the consideration therefor would fail, and the patent be void for the whole. But if such distinct inventions could be lawfully united in one patent, the doctrine would lead to consequences most perilous and injurious to the patentee; for, if any one of them were known before, or the patent as to one of them was void, by innocent mistake, or by priority of invention, that would take away from him the title to all the others, which were unquestionably his own exclusive inventions. On the other hand, if the doctrine were relaxed, great inconvenience and even confusion might arise to the public, not only from the difficulty of distinguishing between the different inventions stated in the patent and specification, but also of guarding themselves against fraud and imposition by the

Hence, it would seem to follow that where a patentee has invented two distinct and different machines, each of which

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patentee, in including doubtful claims under cover of others which were entirely well founded. In construing statutes upon such a subject, these considerations are entitled to no small weight. At least, they show that there is no ground, founded in public policy, or in private right, which calls for any expanded meaning of the very words of the statute; and that to construe them literally is to construe them wisely. It is plain, also, that the Act of 1837, ch. 45, in the ninth section, contemplated the rule of the common law as being then in full force: and therefore, it seeks to mitigate it, and provides 'that whenever, by mistake, accident, or inadvertence, and without any intent to defraud or mislead the public, any patentee shall have, in his specification, claimed to be the original and first inventor or discoverer of any material or substantial part of the thing invented,' (not of different things invented) 'of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be good and valid for so much of the invention or discovery' (not inventions or discoveries) 'as shall be truly and *bonâ fide* his own; provided it shall be a material and substantial part of the thing patented, and be definitely distinguishable from the other parts, so claimed without right as aforesaid.' This language manifestly points throughout to a definite and single invention, as the 'thing patented,' and does not even suppose, that one patent could lawfully include divers distinct and independent inventions, having no common connection with each other, nor any common purpose. It may, therefore, fairly be deemed a legislative recognition and adoption of the general rule of law in cases not within the exceptive provision of the Act of 1837.

And that is what I understand to have been intended by the Court in the language used in Barrett *v.* Hall, 1 Mason, 447, 475, 478. It was there said, (p. 475,) that 'a patent under the general Patent Act cannot embrace various distinct improvements and inventions; but in such a case the party must take out separate patents. If the patentee has invented certain improved machines, which are capable of a distinct operation, and has also invented a combination of these machines to produce a connected result, the same patent cannot at once be for the combination, and for each of the improved machines; for the inventions are as distinct as if the subjects were entirely different.' And again, (p. 478,) 'If the patent could be constructed as a patent for each of the machines severally, as well as for the combination, then it would be void, because two separate inventions cannot be patented in one patent.' It is obvious, construing this language with reference to the case actually before

will accomplish the same end, he may unite them in one patent, as being distinct modes by which he contemplates the

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the Court, that the Court were treating of a case, where each of the patented machines might singly have a distinct and appropriate use and purpose, unconnected with any common purpose, and therefore each was a different invention. In Moody *v.* Fiske, 2 Mason, 112, 119, the judge alluded still more closely to the distinction, and said: 'I wish it to be understood, in this opinion, that though several distinct improvements in one machine may be united in one patent; (yet) it does not follow, that several improvements in two different machines, *having distinct* and independent operations, can be so included; much less, that the same patent may be for a combination of different machines, and for distinct improvements in each.' It is perhaps impossible to use any general language in cases of this sort, standing almost upon the metaphysics of the law, without some danger of its being found susceptible of an interpretation beyond that which was then in the mind of the Court. The case intended to be put in each of these cases was of two different machines, each applicable to a distinct object and purpose, and not connected together for any common object or purpose. And, understood in this way, it seems to me, that no reasonable objection lies against the doctrine.

Construing, then, the present patent to be a patent for each machine, as a distinct and independent invention, but for the same common purpose, and auxiliary to the same common end, I do not perceive any just foundation for the objection made to it. If one patent may be taken for different and distinct improvements made in a single machine, which cannot well be doubted or denied, how is that case distinguishable in principle from the present? Here there are two machines, each of which is or may be justly auxiliary to produce the same general result, and each is applied to the same common purpose. Why, then, may not each be deemed a part or improvement of the same invention? Suppose the patentee had invented two distinct and different machines, each of which would accomplish the same end, why may he not unite both in one patent, and say, I deem each equally useful and equally new, but, under certain circumstances, the one may, in a given case, be preferable to the other? There is a clause in the Patent Acts, which requires that the inventor, in his specification or description of his invention, should "fully explain the principle and the several modes, in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions." Now, this would seem clearly to show that he might lawfully unite in one patent all the modes, in which he contemplated the application of his invention, and all the different sorts of

application of his invention, one of them being preferable in certain circumstances to the other, and *vice versa*. In this way the unity of the subject-matter is preserved; for the subject matter consists, in such a case, of the object to be accomplished, and of the several modes by which it may be accomplished.

§ 112. There is also another aspect in which what we have called the unity of a patent must be preserved. It is impossible that any invention should have been produced both as the separate invention of a party, and as the joint invention of the same party and another or others. It must have been either the separate and sole invention of the party, or the joint invention of the same party, acting with others. A joint invention may be a good subject-matter of a patent, for the statute supposes the case of a joint invention, and provides for it; but if an invention, which, in point of fact, was made by more than one person, is made the subject of a patent by any one of them, he cannot take the oath required by the statute,

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machinery, or modifications of machinery, by which, or to which it might be applied; and if each were new, there would seem to be no just ground of objection to his patent, reaching them all. (Act of 1793, ch. 55, § 3; Act of 1836, ch. 357.) *A fortiori*, this rule would seem to be applicable, where each of the machines is but an improvement or invention conducing to the accomplishment of one and the same general end.

But let us take the case in another view, (of which it is certainly susceptible,) and consider the patent as a patent, not for each machine separately, but for them conjointly, or in the aggregate, as conducing to the same common end; if each machine is new, why may they not both be united in one patent, as distinct improvements? I profess not to see any good reason to the contrary. If they may be so united, and were both new, then, upon the principles established in Moody *v.* Fiske, (2 Mason's R. 112, 117, 118, 119,) it is not necessary, in order to maintain a suit, that there should be a violation of the patent throughout. It is sufficient if any one of the invented machines or improvements is wrongfully used; for that, *pro tanto*, violates the patent. In this view, therefore, the use of the cutter of the inventor, without any use of the saw, would be a sufficient ground to support the present bill, if it were not otherwise open to objection." See also Root *v.* Ball, 4 M'Lean, 177.

declaring himself to be the original and first inventor, or, if he does take it, his patent will be void. On the other hand, if his invention was the sole production of one party, a joint patent for it encounters the same objection. It is necessary, therefore, in all cases, that the subject-matter should be claimed as the sole invention of one party, if such is the fact, or as the joint invention of two or more parties, if it was invented by more than one.[1]

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[1] In Barrett *v.* Hall, 1 Mas. 447, 472, the reasons are thus stated: "In the first place, a joint patent may well be granted upon a joint invention. There is no difficulty in supposing in point of fact, that a complicated invention may be the gradual result of the combined mental operations of two persons acting together, *pari passu*, in the invention. And if this be true, then as neither of them could justly claim to be the sole inventor in such a case, it must follow that the invention is joint, and that they are jointly entitled to a patent. And so are the express words of the Patent Act, (Act of 21st February, 1793, ch. 11, § 1,) which declares, that if any person or persons shall allege, that he or they have invented, &c., a patent shall be granted to him or them for the invention.

In the next place, a joint patent cannot be sustained upon a sole invention of either of the patentees, for the Patent Act gives no right to a patent, except to the inventors, and requires an oath from the party, who claims a patent, that he is the true inventor.

In the next place, a joint patent for an invention is utterly inconsistent with several patents for the same invention by the same patentees. For it is impossible that any person can be, at the same time, the joint and the sole inventor of the same invention. If, therefore, each of the joint patentees obtain a several patent for the same invention, as his own exclusive invention, and afterwards, without surrendering the first patent, they obtain a joint patent for the same as a joint invention, either the former sole patents are void, or the joint patent is void. For, besides the apparent inconsistency of the patents, if all could be sustained, then a recovery upon the joint patent would be no bar to a suit upon the several patents; and the parties might obtain a double recompense for the same infringement. There is an additional reason, which deserves great consideration; and that is, that if sole and joint patents could be sustained by the same parties for the same invention, they might be successively taken out, so that the term of the exclusive right might be prolonged for a great length of time, instead of being limited to fourteen years. I am, therefore, clearly of opinion, that a grant of a subsequent patent for an invention is an estoppel to the patentee to set up any

§ 113. An inventor cannot have two subsisting valid patents, at the same time, for the same invention. The first patent, while it remains in full force and unrepealed, is an estoppel to any subsequent patent by the same person for the same invention.[1]

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prior grant to the same invention, which is inconsistent with the terms of the last grant. And I have very great doubts, whether where a patent is once granted to any person for an invention, he can legally acquire any right under a subsequent patent for the same invention, unless his first patent be repealed for some original defect, so that it might truly be said to be a void patent.

In the next place, if several patents are taken out by several patentees for a several invention, and the same patentees afterwards take out a joint patent for the same as a joint invention, the parties are not absolutely estopped by the former patents from asserting the invention to be joint; but the former patents are very strong evidence against the joint invention. The reason of this doctrine is, not that estoppels are odious in the law, but that a party may innocently mistake, as to the extent of his own claims, and though a sole and joint invention, by the same persons of the same thing, cannot exist in fact, yet a party may suppose that he has invented, what in truth has been partly suggested by another mind."

[1] Odiorne *v.* The Amesbury Nail Factory, 2 Mason, 28. Barrett *v.* Hall, 1 Mason, 447, 473.

CHAPTER IV.

THE PERSONS ENTITLED TO TAKE, RENEW, OR EXTEND PATENTS.

§ 114. We have seen that the person or persons entitled to receive a patent can only be the inventor or inventors of the thing proposed to be patented. Our statute does not admit of a patent for the introduction of an invention from abroad, however meritorious. The patentee must be the inventor, and the original and first inventor.[1] But where the inventor has died before making application for a patent, the statute provides that the right of applying for and obtaining a patent shall devolve on his executor or administrator, in trust for his heirs or devisees, and that the oath or affirmation of original invention shall be varied accordingly.[2]

§ 115. As the statute is silent on the subject of citizenship, it follows, that an alien, who is the first and original inventor of any patentable subject, may apply for and obtain a patent, in the same manner as a citizen of the United States. The *eighth* section of the Act of 1836, c. 357, seems to contemplate the case of an application by an alien, by providing that the fact of a patent having been previously taken out in a foreign country, shall not debar the original and true inventor from a patent in the United States, where such foreign patent has not been taken out, and the invention published more than six months next before the filing of the specification and

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[1] Reed *v.* Cutter, 1 Story's R. 590, 596; Act of 1836, c. 357, § 6.

[2] Act of 1836, c. 357, § 10.

drawing.[1] The subsequent Act of 1839, c. 88, § 6, has somewhat altered this provision, by declaring that no person shall be debarred from receiving a patent, by reason of the invention having been patented in a foreign country more than six months prior to his application, *provided*, that the same shall not have been introduced into public and common use, in the United States, prior to the application for such patent.[2]

§ 116. So that under these two statutes, the rights of aliens are these. An alien, who is the original and first inventor of a patentable subject, may obtain a patent therefor in the United States, under the same circumstances as a citizen, if he has not patented his invention in a foreign country. If, however, he has taken out a patent for his invention and published the same abroad, if he applies for a patent in the United States, he can obtain it, provided the subject has not been introduced into public and common use in the United States, before his application, notwithstanding he may have received a patent for it abroad more than six months prior to his application here. But if his application in the United States is made within six months of the date or publication of his foreign patent, and yet the subject has in the meantime been introduced into public and common use in this country, it is not quite clear whether the statutes, taken together, mean to give him a patent, notwithstanding such public use, or whether they leave his case open to the general objection of a prior public use. It would seem to have been the intention of Congress, in these provisions, to leave the space of six months open to foreigners, where they are original and true inventors, and not to exclude them by reason of the introduction of their inventions within that period, com-

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[1] Act of 1836, c. 357, § 8. The sixth section of the statute also contemplates the case of a patentee being an alien, by requiring the applicant to make oath of what country he is a citizen.

[2] Act of 1839, c. 88, § 6.

mencing from the date of the patent or publication in a foreign country.[1]

§ 117. The *eighteenth* section of the Act of 1836, provides for an extension of a patent beyond the term of its limitation, on the application of the patentee, in the mode therein prescribed. It has been determined, that an administrator is competent to apply for and receive this grant, although the patentee had disposed of all his interest in the then existing patent.[2]

§ 118. The question whether an assignee, under the first term of a patent, can claim or exercise any right or interest under the renewed or extended patent, has been much discussed. The patent for Woodworth's planing machine was extended from 1842 to 1849, by the Board of Commissioners, under the general Patent Act of 1836. Under this extension, a majority of the Supreme Court of the United States, held that the renewed franchise, or the right to make and sell the machine, did not enure to the benefit of assignees under the original term, but to the administrator of Woodworth to whom it was granted; but that assignees, who were in the use of the patented machine at the time of the renewal, had still a right to use it.[3] Subsequently, the same patent was

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[1] In the case of interfering applications, where the question is one of priority of invention between an alien and a citizen of the United States, the date of the enrolment of the foreign patent, and not that of the sealing, is considered by the Patent-Office as the date of the foreign patent, beyond which the foreign applicant is not permitted to go in order to prove the priority of his invention.

[2] Wilson *v.* Rousseau, 4 Howard, 646; Woodworth *v.* Sherman, 3 Story's R. 171, 172; Brooks *v.* Bicknell, 3 M'Lean R. 250, 255, 260; Woodworth *v.* Stone, 3 Story's R. 749.

[3] Wilson *v.* Rousseau, 4 Howard, 646. Mr. Justice Nelson delivered the opinion of a majority of the Court, (McLean, Wayne, and Woodbury, Justices, dissenting,) as follows: "The second question is, whether, by force and opera-

again extended by special Act of Congress, passed in 1845,

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tion of the eighteenth section already referred to, the extension granted to W. W. Woodworth, as administrator, on the 16th day of November, 1842, inured to the benefit of assignees under the original patent granted to William Woodworth, on the 27th day of December, 1828, or whether said extension inured to the benefit of the administrator only, in his said capacity. The most of this section has already been recited in the consideration of the first question, and it will be unnecessary to repeat it. It provides for the application of the patentee to the commission for an extension of the patent for seven years; constitutes a board to hear and decide upon the application; and if his receipts and expenditures, showing the loss and profits accruing to him from and on account of his invention, shall establish to the satisfaction of the board, that the patent should be extended by reason of the patentee, without any fault on his part, having failed to obtain from the use and sale of his invention a reasonable remuneration for his time, ingenuity, and expense bestowed upon the same, and the introduction of it into use, it shall be the duty of the commissioners to extend the same by making a certificate thereon of such extension for the term of seven years from and after the first term; 'and thereupon the said patent shall have the same effect in law as though it had been originally granted for the term of twenty-one years. And then comes the clause in question:—"*And the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein.*"'

The answer to the second question certified depends upon the true construction of the above clause respecting the rights of assignees and grantees.

Various and conflicting interpretations have been given to it by the learned counsel on the argument, leading to different and opposite results, which it will be necessary to examine. On one side, it has been strongly argued, that the legal operation and effect of the clause save and protect all the rights and interests of assignees and grantees in the patent existing at the time of the extension; and thus secure and continue the exclusive use and enjoyment of these rights and interests for the seven years, to the same extent, and in as ample a manner, as held and enjoyed under the first term. That if A holds an assignment of a moiety of the patent, he will hold the same for the new term of seven years; if of the whole patent, then the whole interest for that period. And that as soon as the new grant is made to the patentee, the interest therein passes, by operation of this clause, to the assignees of the old term in proportion to their respective shares. On the other side, it has been argued, with equal earnestness, that, according to the true construction and legal effect of the clause, protection is given, and

from 1849 to 1856. Under this extension, a majority of the

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intended to be given, only to the rights and interests of assignees and grantees acquired and held by assignments and grants from the patentee in and under the second or new term; and that it does not refer to, or embrace, or in any way affect the rights and interests of assignees or grantees holding under the old. In connection with this view, it is said that the rights thus protected in the new term may be acquired by means of the legal operation of the clause, either from a direct assignment or grant after the extension of the patent, or by an appropriate provision for that purpose, looking to an extension, contained in the assignment or grant under the old. It is not to be denied, but that, upon any view that has been taken, or that may be taken of the clause, its true meaning and legal effect cannot be asserted with entire confidence; and, after all, must depend upon such construction as the Court can best give to doubtful phraseology and obscure legislation, having a due regard to the great object and intent of Congress, as collected from the context and general provisions and policy of the patent law. The rule is familiar and well settled, that, in case of obscure and doubtful words or phraseology, the intention of the law-makers is to be resorted to, if discoverable from the context, in order to fix and control their meaning so as to reconcile it, if possible, with the general policy of the law.

Now the serious difficulty in the way, and which renders the first interpretation inadmissible, except upon the most explicit and positive words, is, that it subverts at once the whole object and purpose of the enactment, as is plainly written in every line of the previous part of the section. It gives to the assignees and grantees of the patent, as far as assigned under the old term, the exclusive right and enjoyment of the invention — the monopoly — in the extended term for the seven years; when, by the same provision, it clearly appears that it was intended to be secured to the patentee as an additional remuneration for his time, ingenuity and expense in bringing out the discovery, and introducing it into public use. It gives this remuneration to parties that have no peculiar claims upon the government or the public, and takes it from those who confessedly have.

The whole structure of the eighteenth section turns upon the idea of affording this additional protection and compensation to the patentee, and to the patentee alone, and hence the reason for instituting the inquiry before the grant of the extension, to ascertain whether or not he has failed to realize a reasonable remuneration from the sale and use of the discovery, — the production of an account of profit and loss to enable the board to determine the question; and as it comes to the one or the other conclusion, to grant the extended term or not.

It is obvious, therefore, that Congress had not at all in view protection to

Court held, likewise, that an assignee under the original term had the same right to continue to use the patented

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assignees. That their condition, on account of dealing in the subject of the invention, whether successful or otherwise, was not in the mind of that body, nor can any good reason be given why it should have been. They had purchased portions of the interest in the invention, and dealt with the patent-rights as a matter of business and speculation, and stood in no different relation to the government or the public, than other citizens engaged in the common affairs of life. Nothing short of the most fixed and positive terms of a statute could justify an interpretation so repugnant to the whole scope and policy of it, and to wise and judicious legislation. We think this construction not necessarily required by the language of the clause, and is altogether inadmissible.

Then, as to the second interpretation, namely, that the clause refers to, and includes assignees and grantees of interests acquired in the new term, either by an assignment or grant from the patentee after the extension, or by virtue of a proper clause for that purpose, in the assignment under the old term. The difficulty attending this construction lies in the uselessness of the clause upon the hypothesis, — the failure to discover any subject-matter, upon which to give reasonable operation and effect to it, — and hence, to adopt the construction is to make the clause virtually a dead letter, the grounds for which conclusion we will proceed to state. The eleventh section of the Patent Act provides, that every patent shall be assignable, in law, either as to the whole interest, or any undivided part thereof, by an instrument in writing, which assignment, and also any grant and conveyance of the exclusive right under any patent, &c., shall be recorded in the Patent Office. And the fourteenth section authorizes suits to be brought in the name of the assignee or grantee, for an infringement of his rights, in a court of law.

One object of these provisions, found in the general Patent system, is, to separate the interest of the assignee or grantee from that which may be held by the patentee, and to make each fractional interest held under the patent distinct and separate; in other words, to change a mere equitable into a legal title and interest, so that it may be dealt with in a court of law.

Now, in view of these provisions, it is difficult to perceive the materiality of the clause in question, as it respects the rights of assignees and grantees held by an assignment or grant in and under the new term, any more than in respect to like rights and interests in and under the old. The eleventh and fourteenth sections embrace every assignment or grant of a part or the whole of the interest in the invention, and enable these parties to deal with

machine.[1] The following is the reasoning of the majority of the Court upon this difficult question, which stands in

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it, in all respects, the same as the patentee. They stand upon the same footing, under the new term, as in the case of former assignments under the old. Nothing can be clearer. It is impossible to satisfy the clause by referring it to these assignments and grants; or to see how Congress could, for a moment, have imagined that there would be any necessity for the clause, in this aspect of it. It would have been as clear a work of supererogation as can be stated.

The only color for the argument in favor of the necessity of this clause, in the aspect in which we are viewing it, is, as respects the contingent interest in the new term, derived from a provision in an assignment under the old one, looking to the extension. As the right necessarily rested on contract, at least till the contingency occurred, there may be some doubt whether, even after its occurrence, the eleventh and fourteenth sections had the effect to change it into a vested legal interest, so that it could be dealt with at law, and that a new assignment or grant from the patentee would be required, which could be enforced only in a court of equity. To this extent there may be some color for the argument, some supposed matter to give operation and effect to the clause.

But what is the amount of it? Not that the clause creates or secures this contingent interest in the new term, for that depends upon the contract between the parties, and the contract alone, and which, even if the general provisions of the law respecting the rights of assignees and grantees could not have the effect to change into a legal right, might be enforced in a court of equity. The only effect, therefore, of the provision in respect to assignees and grantees of this description would be, to change the nature of the contingent interest after the event happened, from a right resting in contract to a vested legal right; or, to speak with more precision, to remove a doubt about the nature of the interest in the new term, after the happening of a certain contingency, which event in itself was quite remote. This seems to be the whole amount of the effect that even ingenious and able counsel have succeeded in finding, to satisfy the clause. It presupposes that Congress looked to this scintilla of interest in the new term, which might or might not occur, and cast about to provide for it, for fear of doubts as to its true nature and legal character, and the effect of the general system upon it. We cannot but think a court should hesitate before giving a construction to the clause so deeply harsh and unjust in its consequences, both as it respects the public and individual rights and interests, upon so narrow a foundation.

[1] Bloomer *v.* McQuewan, 14 Howard, 539, 547.

such a position that it can scarcely be regarded as finally settled: —

But there are other difficulties in the way of this construction. The eleventh section, regulating the rights of assignees and grantees, provides 'that every patent shall be assignable at law,' &c., 'which assignment, and also every grant and conveyance of the exclusive right under any patent to make and use, and to grant to others to make and use, the thing patented, within and throughout any specified part or portion of the United States,' &c., 'shall be recorded.'

Now it will be apparent, we think, from a very slight examination of the clause in question, that it does not embrace assignees or grantees in the sense of the eleventh section at all; nor is the sense in which they are referred to, when speaking of these interests generally under the patent law, without interpolating words or giving a very forced construction to those composing it. The clause is as follows: — 'And the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein.'

It will be seen that the word 'exclusive,' used to qualify the right of a grantee in the eleventh section, and indeed, always, when referred to in the Patent Law, (§ 14,) and also the words 'to make,' and to grant to others 'to make and use,' are dropped; so that there is not only no exclusive right in the grantee, in terms, granted or secured by the clause, but no right at all, no right whatever, to make or to grant to others to make and use the thing patented; in other words, no exclusive right to make or vend. And it is, we think, quite obvious, from the connection and phraseology, that assignees and grantees were placed, and were intended to be placed, in this respect, upon the same footing. We should scarcely be justified in giving to this term a more enlarged meaning as to the right to make and sell, as it respects the one class, than is given to the others, as they are always used as correlative in the Patent Laws, to the extent of the interests held by them. The clause, therefore, in terms, seems to limit studiously the benefit, or reservation, or whatever it may be called, under or from the new grant to the naked right to use the thing patented; not an exclusive right, even for that, which might denote monopoly, nor any right at all, much less exclusive, to make and vend. This seems to have been guardedly omitted. We do not forget the remaining part of the sentence, "to the extent of their respective interests therein," which is relied on to help out the difficulty. But we see nothing in the phrase, giving full effect to it, necessarily inconsistent with the plain meaning of the previous words. The exact idea intended to be expressed may be open to observation; but we think it far from justifying the Court in holding, that the grant or reservation of a right to use a thing

" The bill in this case was filed by the appellants, on the 6th of July, 1850, in the Circuit Court of the United States,

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patented, well known and in general use at the time, means an exclusive right to make and use it; and not only this, but an exclusive right to grant to others the right to make and use it, meaning an exclusive right to vend it.

The Court is asked to build up a complete monopoly in the hands of assignees and grantees in the thing patented, by judicial construction, founded upon the grant of a simple right to use it to the extent of the interest possessed; for the argument comes to this complexion. A simple right to use is given, and we are asked to read it an exclusive right, and not only to read it an exclusive right to use, but an exclusive right to make and vend the patented article.

Recurring to the Patent Law, it will be seen that Congress, in granting monopolies of this description, have deemed it necessary to use very different language. The grant in the patent must be in express terms, for 'the full and exclusive right and liberty of making, using, and vending,' in order to confer exclusive privileges. The same language is also used in the act, when speaking of portions of the monopoly in the hands of assignees and grantees. (§ 11, 14.)

We cannot but think, therefore, if Congress had intended to confer a monopoly in the patented article upon the assignees and grantees, by the clause in question, the usual formula in all such grants would have been observed, and that we should be defeating their understanding and intent, as well as doing violence to the language, to sanction or uphold rights and privileges of such magnitude by the mere force of judicial construction. We conclude, therefore, that the clause has no reference to the right or interest of assignees and grantees under the new and extended term, upon the ground: —

1. Because, in that view, giving to the words the widest construction, there is nothing to satisfy the clause, or upon which any substantial effect and operation can be given to it; it becomes virtually a dead letter, and work of legislative superfluity; and

2. Because the clause in question, upon a true and reasonable interpretation, does not operate to vest the assignees and grantees named therein with any exclusive privileges whatever, in the extended term, and therefore cannot be construed as relating to or embracing such interests in the sense of the law.

The extension of the patent, under the eighteenth section, is a new grant of the exclusive right or monopoly in the subject of the invention for the seven years. All the rights of assignees or grantees, whether in a share of

for the Western District of Pennsylvania, to obtain an injunction restraining the appellees from the use of two of

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the patent, or to a specified portion of the territory held under it, terminate at the end of fourteen years, and become reinvested in the patentee by the new grant. From that date he is again possessed of 'the full and exclusive right and liberty of making, using, and vending to others the invention,' whatever it may be. Not only portions of the monopoly held by assignees and grantees, as subjects of trade and commerce, but the patented articles or machines throughout the country, purchased for practical use in the business affairs of life, are embraced within the operation of the extension. This latter class of assignees and grantees are reached by the new grant of the exclusive right to use the thing patented. Purchasers of the machines, and who were in the use of them at the time, are disabled from further use immediately, as that right became vested exclusively in the patentee. Making and vending the invention are prohibited by the corresponding terms of his grant.

Now, if we read the clause in question with reference to this state of things, we think that much of the difficulty attending it will disappear. By the previous part of the section, the patentee would become reinvested with the exclusive right to make, use, and vend the thing patented; and the clause in question follows, and was so intended as a qualification. To what extent? is the question. The language is, 'And the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein;' naturally, we think, pointing to those who were in the use of the patented article at the time of the renewal, and intended to restore or save to them that right which, without the clause, would have been vested again exclusively in the patentee. The previous part of the section operating in terms to vest him with the exclusive right to use, as well as to make and vend, there is nothing very remarkable in the words; the legislature intending thereby to qualify the right in respect to a certain class only, leaving the right as to all others in the patentee, in speaking of the benefit of the renewal extending to this class. The renewal vested him with the whole right to use, and therefore there is no great impropriety of language, if intended to protect this class, by giving them, in terms, the benefit of the renewal. Against this view it may be said, that 'the thing patented' means the invention or discovery, as held in McClurg *v.* Kingsland, 1 How. 202, and that the right to use 'the thing patented' is what, in terms, is provided for in the clause. That is admitted; but the words, as used in the connection here found, with the right simply to use the thing patented, not the exclusive right, which would be a monopoly, necessarily refer to the patented machine, and not to the invention; and,

Woodworth's planing machines, in the city of Pittsburg. The term for which Woodworth's patent was originally

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indeed, it is in that sense that the expression is to be understood generally throughout the Patent Law, when taken in connection with the right to use, in contradistinction to the right to make and sell.

The 'thing patented' is the invention; so the machine is the thing patented, and to use the machine is to use the invention, because it is the thing invented, and in respect to which the exclusive right is secured, as is also held in M'Clurg *v.* Kingsland. The patented machine is frequently used as equivalent for the 'thing patented,' as well as for the invention or discovery; and, no doubt, when found in connection with the exclusive right to make and vend, always means the right of property in the invention, — the monopoly. But when in connection with the simple right to use, the exclusive right to make and vend being in another, the right to use the thing patented necessarily results in a right to use the machine, and nothing more. Then as to the phrase, 'to the extent of their respective interests therein,' that obviously enough refers to their interests in the thing patented; and in connection with the right simply to use, means their interests in the patented machines, be their interest in one or more at the time of the extension.

This view of the clause, which brings it down in practical effect and operation to the persons in the use of the patented machine or machines at the time of the new grant, is strengthened by the clause immediately following, which is, 'that no extension of the patent shall be granted after the expiration of the term for which it was originally issued.' What is the object of this provision? Obviously to guard against the injustice which might otherwise occur to a person who had gone to the expense of procuring the patented article, or changed his business upon the faith of using or dealing with it, after the monopoly had expired, which would be arrested by the operation of the new grant. To avoid this consequence it is provided, that the extension must take place before the expiration of the patent, if at all. Now it would be somewhat remarkable if Congress should have been thus careful of a class of persons who had merely gone to the expense of providing themselves with the patented article for use, or as a matter of trade, after the monopoly had ceased, and would be disappointed and exposed to loss if it was again renewed, and at the same time had overlooked the class, who, in addition to this expense and change of business, had bought the right from the patentee, and were in the use and enjoyment of the machine, or whatever it might be, at the time of the renewal. These provisions are in juxtaposition, and, we think, are but parts of the same policy, looking to

granted, expired in 1842, but it was extended seven years by the board established by the 18th section of the Act of 1836. And afterwards, by the Act of Congress of February 26, 1845, this patent was extended for seven years more, commencing on the 27th of December, 1849, at which time the previous extension would have terminated.

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the protection of individual citizens from any special wrong and injustice on account of the operation of the new grant. The consequences of any different construction from the one proposed to be given are always to be regarded by courts, when dealing with a statute of doubtful meaning. For between two different interpretations, resting upon judicial expositions of ambiguous and involved phraseology, that which will result in what may be regarded as coming nearest to the intention of the legislature should be preferred.

We must remember, too, that we are not dealing with the decision of the particular case before us, though that is involved in the inquiry, but with a general system of great practical interest to the country; and it is the effect of our decision upon the operation of the system that gives to it its chief importance.

The eighteenth section authorizes the renewal of patents in all cases where the board of commissioners is satisfied of the usefulness of the invention, and of the inadequacy of remuneration to the patentee. Inventions of merit only are the subjects of the new grant; such as have had the public confidence, and which it may be presumed have entered largely in one way and another into the business affairs of life.

By the report of the commissioners of patents, it appears that five hundred and two patents were issued in the year 1844 — for the last fourteen years, the average issue yearly exceeded this number — and embrace articles to be found in common use in every department of labor and art, on the farm, in the workshop, and factory. These articles have been purchased from the patentee, and have gone into common use. But if the construction against which we have been contending should prevail, the moment the patent of either article is renewed, the common use is arrested, by the exclusive grant to the patentee. It is true, the owner may repurchase the right to use, and, doubtless, would be compelled from necessity; but he is left to the discretion or caprice of the patentee. A construction leading to such consequences, and fraught with such unmixed evil, we must be satisfied, was never contemplated by Congress, and should not be adopted unless compelled by the most express and positive language of the statute."

It appears, from the pleadings and evidence in the case, that, shortly after the passage of the Act of Congress of 1845, William Woodworth, the administrator of the patentee, in whose name the certificate of extension was directed to be issued, assigned all his right to James G. Wilson, from whom the appellant purchased the exclusive right to construct and use this machine, and to vend to others the right to construct and use it, in a large district of country described in the grant. Pittsburg, in which the machines in question are used, is included within these limits. And the right which the appellant purchased was regularly transferred to him by Wilson, by an instrument of writing duly recorded in the Patent-Office.

In the year 1833, during the term for which the patent was originally granted, the defendants purchased the right to construct and use a certain number of these machines within the limits of the city of Pittsburg and Alleghany county; and the right to do so was regularly transferred to them by different assignments, deriving their title from the original patentee. The two machines mentioned in the bill were constructed and used by the respondent soon after the purchase was made, and the appellees continued to use them up to the time when this bill was filed. And the question is, whether their right to use them terminated with the first extension, or still continues under the extension granted by the Act of 1845.

The Circuit Court decided that the right of the appellees still continued, and upon that ground dismissed the appellant's bill. And the case is now before us upon an appeal from that decree.

In determining this question we must take into consideration not only the special act under which the appellant now claims a monopoly, but also the general laws of Congress in relation to patents for useful improvements, and the special acts which have from time to time been passed in favor of the particular patentees. They are statutes in *pari materia;* and all relate to the same subject, and must be construed

together. It was so held in the case of Evans *v.* Eaton, (3 Wheat. 518,) where the court said, that the special Act of Congress in favor of Oliver Evans, granting him a new patent for fourteen years for his improvements in manufacturing flour and meal, was ingrafted on the general act for the promotion of useful arts, and the patent issued in pursuance of both. The rule applies with more force in the present case; for this is not the grant of a new patent, but an enlargement of the time for which a patent previously extended under the Act of 1836, should continue in force.

Indeed, this rule of construction is necessary to give effect to the special act under which the appellant claims the monopoly. For this law does not define the rights or privileges which the patent shall confer, nor prescribe the remedy to which he shall be entitled if his rights are infringed. It merely extends the duration of the patent, and nothing more. And we are necessarily referred, therefore, to the general law upon the subject to ascertain the rights to which the patent entitled him, and also the remedy which the law affords him if these rights are invaded.

Now, the Act of 1836, in express terms, gives the benefit of the extension authorized by that law to the assignees and grantees of the right to use the thing patented to the extent of their respective interests therein. And under this provision it was decided, in the case of Wilson *v.* Rousseau, (4 Howard, 688,) that the party who had purchased and was using this planing machine, during the original term for which the patent was granted, had a right to continue the use during the extension. And the distinction is there taken between the grant of the right to make and vend the machine, and the grant of the right to use it.

The distinction is a plain one. The franchise which the patent grants, consists altogether in the right to exclude every one from making, using, or vending the thing patented, without the permission of the patentee. This is all that he obtains by the patent. And when he sells the exclusive privilege of making or vending it for use in a particular place,

the purchaser buys a portion of the franchise which the patent confers. He obtains a share in the monopoly, and that monopoly is derived from, and exercised under, the protection of the United States. And the interest he acquires, necessarily terminates at the time limited for its continuance by the law which created it. The patentee cannot sell it for a longer time. And the purchaser buys with reference to that period: the time for which exclusive privilege is to endure being one of the chief elements of its value. He, therefore, has no just claim to share in a further monopoly subsequently acquired by the patentee. He does not purchase or pay for it.

But the purchaser of the implement or machine, for the purpose of using it in the ordinary pursuits of life, stands on a different ground. In using it, he exercises no rights created by the Act of Congress, nor does he derive title to it by virtue of the franchise or exclusive privilege granted to the patentee. The inventor might lawfully sell it to him, whether he had a patent or not, if no other patentee stood in his way. And when the machine passes to the hands of the purchaser, it is no longer within the limits of the monopoly. It passes outside of it, and is no longer under the protection of the Act of Congress. And if his right to the implement or machine is infringed, he must seek redress in the courts of the State, according to the laws of the State, and not in the courts of the United States, nor under the law of Congress granting the patent. The implement or machine becomes his private, individual property, not protected by the laws of the United States, but by the laws of the State in which it is situated. Contracts in relation to it are regulated by the laws of the State, and are subject to State jurisdiction. It was so decided in this Court, in the case of Wilson *v.* Sanford and others, 10 Howard, 99. Like other individual property, it is then subject to State taxation; and from the great number of patented articles now in use, they, no doubt, in some of the States, form no inconsiderable portion of its taxable property.

Moreover, the value of the implement or machine, in the

hands of the purchaser for use, does not in any degree depend on the time for which the exclusive privilege is granted to the patentee; nor upon the exclusion of others from its use. For example, in the various patented articles used in agriculture, in milling, in manufactures of different kinds, in steam-engines, or for household or other purposes, the value to the purchaser is not enhanced by the continuance of the monopoly. It is of no importance to him whether it endures for a year or twenty-eight years. He does not look to the duration of the exclusive privilege, but to the usefulness of the thing he buys, and the advantages he will derive from its use. He buys the article for the purpose of using it as long as it is fit for use and found to be profitable. And in the case before us the respondents derive no advantage from the extension of the patent, because the patentee may place around them as many planing machines as he pleases, so as to reduce the profits of those which they own to their just value in an open and fair competition.

It is, doubtless, upon these principles that the Act of 1836 draws the distinction between the assignee of a share in the monopoly, and the purchase of one or more machines, to be used in the ordinary pursuits of business. And that distinction is clearly pointed out and maintained in the case of Wilson *v.* Rousseau, before referred to.

Upon the authority, therefore, of the cases of Evans *v.* Eaton, and Wilson *v.* Rousseau, these two propositions may be regarded as settled by judicial decision: 1. That a special Act of Congress in favor of a patentee, extending the time beyond that originally limited, must be considered as ingrafted on the general law; and 2. That under the general law, in force when the special Act of Congress was passed, a party who had purchased the right to use a planing machine, during the period to which the patent was first limited, was entitled to continue to use it during the extension authorized by that law.

Applying these rules to the case before us, the respondents must be entitled to continue the use of their planing machines

during the time for which the patent is extended by the special Act of Congress, unless there is something in the language of the law requiring a different construction.

But there is nothing in the law to justify the distinction claimed in this respect on behalf of the patentee. Its language is plain and unambiguous. It does not even grant a new patent, as in the case of Oliver Evans. It merely extends the time of the monopoly to which the patentee was entitled under the general law of 1836. It gives no new rights or privileges, to be superadded to those he then enjoyed, except as to the time they should endure. The patent, such as it then was, is continued for seven years longer than the period before limited. And this is the whole and only provision continued in this special act. In order, therefore, to determine the rights of the patentee during the extended term, we are necessarily referred to the general law, and compelled to inquire what they were before this special act operated upon them and continued them. Indeed, the court has been obliged to recur to the Act of 1836, in every stage of this suit, to guide it in deciding upon the rights of the parties, and the mode of proceeding in which they are to be tried. It is necessarily referred to in order to determine whether the patent under which the complainant claims, was issued by lawful authority, and in the form prescribed by law: it was necessary to refer to it in the Circuit Court, in order to determine whether the patentee was entitled to the patent as the original inventor, that fact being disputed in the Circuit Court; also, for the notices to which he was entitled in the trial of that question; and for the forum in which he was authorized to sue for an infringement of his rights. And the right of the appellant to bring the case before the court for adjudication, is derived altogether from the provisions of the general law. For there is no evidence in the record to show that the machines are worth two thousand dollars, and no appeal, therefore, would lie from the decision of the Circuit Court, but for the special provision in relation to patent cases in the Act of 1836. And while it is admitted that this special act is so

ingrafted on the general law, as to entitle the patentee to all the rights and privileges which that law has provided, for the benefit and protection of inventors, it can hardly be maintained that the one in favor of the purchaser of a machine is by construction to be excepted from it, when there are no words in the special act to indicate that such was the intention of Congress.

This construction is confirmed by the various special acts which have been passed from time to time, in favor of particular inventors, granting them new patents after the first had expired, or extending the time for which they were originally granted. Many of these acts have been referred to in the argument, some of which contain express provisions, protecting the rights of the purchaser under the first term, and others contain no provision on the subject, and merely grant a new patent, or, as in the case before the Court, extend the duration of the old one. And in several instances, special laws in favor of different inventors have been passed within a short time of each other, in one of which the rights of the previous purchaser are expressly reserved, and in the other there is no provision on the subject. And the Act of March 3, 1845, authorizing the patent of William Gale, for an improvement in the manufacture of silver spoons and forks, to be extended, was passed only a few days after the act in favor of Woodworth, and Gale's patent is subjected in express terms to the conditions and restrictions in the Act of 1836, and consequently protects previous purchasers from a new demand.

It has been contended, on behalf of the appellant, that the insertion of these restrictions in one special law, and the omission of them in another, shows that, in the latter, Congress did not intend to exempt the purchaser from the necessity of obtaining a new license from the patentee. And that Congress might well suppose that one inventor had stronger claims upon the public than another, and might, on that account, give him larger privileges on the renewal.

But this argument only looks to one side of the question, that is, to the interest and claims of the inventor. There is

another and numerous class of persons, who have purchased patented articles and paid for them the full price which the patentee demanded, and we are bound to suppose that their interests and their rights would not be overlooked or disregarded by Congress. And still less, that any distinction would be drawn between those who purchased one description of patented machines and those who purchased another. For example, the act granting a new patent to Blanchard, in 1834, for cutting or turning irregular forms, saves the rights of those who had bought under the original patent. And we ought not to presume, without plain words to require it, that while Congress acknowledged the justice of such claims in the case of Blanchard, they intended to disregard them in the case of Woodworth. Nor can it be said that the policy of Congress has changed in this respect after 1834, when Blanchard's patent was renewed. For, as we have already said, the same protection is given to purchasers in the special law, authorizing the renewal of Gale's patent, which was passed a few days after the law of which we are speaking.

The fair inference from all these special laws is this, that Congress has constantly recognized the rights of those who purchase for use a patented implement or machine; that in these various special laws the patentee and purchasers of different inventions were intended to be placed on the same ground; and that the relative rights of both parties under the extension, by special Act of Congress, were intended to be the same as they were when the extension was granted under the general law of 1836. It would seem that, in some cases, the attention of the legislature was more particularly called to the subject, and the rights of the purchaser recognized and cautiously guarded. And when the provision is omitted, the just presumption is, that Congress legislated on the principle decided by this Court in Evans *v.* Eaton, and regarded the special law as ingrafted on the general one, and subject to all of its restrictions and provisions, except only as to the time the patent should endure. Time is the only thing upon which they legislate. And any other construction would

make the legislation of Congress, on these various special laws, inconsistent with itself, and impute to it the intention of dealing out a different measure of justice to purchasers of different kinds of implements and machines; protecting some of them, and disregarding the equal and just claims of others.

And if such could be the interpretation of this law, the power of Congress to pass it would be open to serious objections. For it can hardly be maintained that Congress could lawfully deprive a citizen of the use of his property after he had purchased the absolute and unlimited right from the inventor, and when that property was nó longer held under the protection and control of the General Government, but under the protection of the State, and on that account subject to State taxation.

The 5th amendment to the Constitution of the United States, declares that no person shall be deprived of life, liberty, or property, without due process of law.

The right to construct and use these planing machines had been purchased and paid for without any limitation as to the time for which they were to be used. They were the property of the respondents. Their only value consists in their use. And a special Act of Congress, passed afterwards, depriving the appellees of the right to use them, certainly could not be regarded as due process of law.

Congress undoubtedly have power to promote the progress of science and useful arts, by securing for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries.

But it does not follow that Congress may, from time to time, as often as they think proper, authorize an inventor to recall rights which he had granted to others, or reinvest in him rights of property which he had before conveyed for a valuable and fair consideration.

But we forbear to pursue this inquiry, because we are of opinion that this special Act of Congress does not, and was not intended to interfere with rights of property before ac-

quired; but that it leaves them as they stood during the extension under the general law. And in this view of the subject, the appellant was not entitled to the injunction he sought to obtain, and the Circuit Court were right in dismissing the bill."[1]

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[1] Mr. Justice McLean and Mr. Justice Nelson dissented.

Mr. Justice McLean, —

"Woodworth's patent bears date the 27th of December, 1828, and runs for fourteen years. On the 29th of July, 1830, the patentees conveyed to Isaac Collins and Barzillai C. Smith the right to construct, use and vend to others, the planing machine invented, within several States, including Pennsylvania, except the city of Philadelphia. On the 19th of May, 1833, Collins and Smith transferred to James Barret the right to construct and use, during the residue of the aforesaid term of fourteen years, fifty planing machines, within Pittsburg and Alleghany county, for which he agreed to pay four thousand dollars. Barnet agreed not to construct or run more than fifty machines during the term aforesaid, and Collins and Smith bound themselves not to license during the term, or allow others to do so, in the limits of Pittsburg and Alleghany county.

On the 27th of December, 1842, the patent expired, but it was renewed and extended for seven years, under the Act of 1836. This extension expired in 1849; but Congress, on the 26th of February, 1845, passed an Act which provided that 'the said letters-patent be, and the same is hereby, extended for the term of seven years, from and after the twenty-seventh day of December, 1849.'

The patentee, by deed dated the 14th of March, 1845, and also by a further deed dated the 9th of July, 1845, conveyed to James E. Wilson all his interest as administrator in the letters-patent under the extension by the Act of Congress. And Wilson, on the 4th of June, 1847, for the consideration of twenty-five thousand dollars, gave to Bloomer, the plaintiff, a license to construct and use, and vend to others to construct and use, during the two extensions, "all that part of Pennsylvania lying west of the Alleghany Mountains except Alleghany county, for the first extension, which expires on the 27th day of December, 1849, and the States of Virginia, Maryland, Kentucky and Missouri, excepting certain parts of each State.'

The defendants continued to run their machines during the residue of the fourteen years for which the patent was granted, and during the first extension; and the complainant filed his bill to enjoin the defendants from running their machines under the second extension, by the Act of Congress.

The contract of the defendants was entered into the 19th of May, 1831, and under it Barnet had a right 'to construct and use, during the residue of

§ 119. It was also held, in the case of Wilson *v.* Rousseau, 4 Howard, that a covenant by the patentee, made prior to

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the aforesaid term of fourteen years, fifty planing machines,' &c. The patent expired on the 27th of December, in 1842. The contract of defendants was made the 19th of May, 1832, leaving about nine years and six months for the patent to run, and this was the time limited by the contract, and for which the consideration of four thousand dollars was paid. This was not left to construction from the life of the patent, but the contract expressly declared the right was purchased 'for the residue of the aforesaid term of fourteen years.'

This term was enjoyed by the defendants, and under the decision of this court, in the case of Wilson *v.* Rousseau et al., (4 Howard, 646,) the seven years' extension under the Act of 1836, was also enjoyed by the defendants. This construction of the Act of 1836, in my judgment, was not authorized, and was not within the intention of the law, as was expressed at the time. That extension having expired, another extension is claimed under the Act of Congress. This claim is set up to an injunction bill, filed by the complainant, who is the assignee of the patent for a part of Pennsylvania and other States. And by the decision of four of my brethren, just delivered, the defendants are to enjoy this extension, making fourteen years beyond their control. This would seem to imply, that, under the Act of 1836, and under the Act of 1845, the assignees were the favored objects of Congress. But this is not the case. The patentee who made the invention, and through whose ingenuity, labor, and expense, a great benefit has been conferred on the public, in justice, is entitled to remuneration, and that only was the ground of extension, whether under the law of 1836, or the special Act of 1845.

This, as well as the former decision, was influenced by the consideration that the owners of the machines are, in equity, entitled to run them so long as the exclusive right of the patent shall be continued. It is said that the machines are property, and that no Act of Congress should deprive the owners of the use of their property. But in this view, the property of the patentee seems not to be taken into the account. He is the meritorious claimant for protection. The assignee for a specific time, rests upon his contract. He has conferred no benefit on society. His investment was made with an exclusive reference to his own advantage. He has no more claims upon the public sympathy than he who rents a mill, a farm, or engages in a business open to all who expect a profit by it.

But the hardship is supposed to exist in the fact that, to use the right, a planing machine must be constructed at an expense of some four or five hundred dollars, and this will be lost to the occupier, if, by an extension he shall

the law authorizing extensions, that the covenantee should have the benefit of any improvement in the machinery, or

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not be permitted to run his machine. The answer is, when he entered into the contract he knew, or is presumed to have known, that the patent might be extended under the law of 1836, or by special act, and if he desired an interest under the renewed patent, he should have provided for it in his contract. Having failed to do this, it would seem to be unjust that, under a contract to run the machine less than ten years, he should be entitled to run it sixteen years. The consideration paid was limited to the term specified in the contract. But, it is answered, that the assignee expected to run his machine after the termination of the contract on which the exclusive right would end and become vested in the public.

Let us examine this plea, and it will be found that a great fallacy prevails on this subject. A right that is common, is no more valuable to one person than another, as all may use it. The injury, then, consists, so far as the license is concerned, in the reduction of the value of his machine, by the extension of the exclusive right in the patentee, to the exclusion of the assignee. It is true this deprives him of the monopoly which his contract secured to him. But he has enjoyed this to the extent of his contract, and for which he has paid the stipulated consideration. Now his only equitable plea to run his machine during the renewed patent, arises alone from the supposed difference in the value of his machine, under the renewal, without a license, and where the right becomes vested in the public.

If there had been no renewal, the licensee might run his machine, and any other person might run one. It is a fact known to every observing individual, when a new business is set up, as a planing machine, supposed to be very profitable generally, a competition is excited, which reduces the profit below a reasonable compensation for the labor and expense of the business. If the monopoly continued, as enjoyed under the contract, the consideration paid for the monopoly would be added to the profits, which would make them large. But when the monopoly ceases, the profits, if not destroyed, are reduced by competition, at least as low, if not below the ordinary profit of capital employed in other investments.

If the business of the county or city required the number of planing machines in operation, the licensee could sell his machine at a reasonable reduction for the time it had run. The machines of the defendant had run, probably, from twelve to fifteen years. A considerable reduction would be expected by the purchaser, as a machine could not be expected to last more than twenty years. But suppose it can be used thirty, then one half of the value must be deducted for the wear of the machine fifteen years, which would reduce it to some two hundred and fifty or three hundred dollars.

But suppose the exclusive right should be continued in the patentee, by an

alteration, or renewal of the patent, did not include the extension by an administrator, under the Act of 1836; but that it

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extension of it seven years. Then, if the machines were not more numerous than the public required, they would be wanted by their owners, or by others disposed to engage in the business. And I hazard nothing in saying, that, after deducting the compensation from the profits, paid for the exclusive right, they would be larger than could be hoped for, where the right was common. Under such circumstances, I can entertain no doubt that a machine would sell for more money, under the extension of the patent, than where the right goes to the public.

The idea that, to refuse the use of a machine under the extension of a patent, is an unjust interference with property, I think is unfounded. There is no interference with the property in the machine. The owner may sell it to any one who has a license to use it. It is not the property in the machine that is complained of, but because the right to run it longer than the contract provided for is not given. The licensee has used the franchise, as long as he purchased and paid for it; and can he in justice claim more than his contract? The extension of the right to use, while the extended patent continues, does a wrong to the patentee, by taking his property without compensation, and giving it to the licensee. The franchise is property, and it can no more be transferred to another, without compensation or contract, than any other property. It would seem that this description of property is not governed by contract. That a contract to use the franchise ten years, does not mean what is expressed, but may mean a right for twenty years, or any other term to which the patent may be extended.

Every man who has sense enough to make a contract, takes into his estimate the contingency of a loss, to some extent, in going out of the business. He fixes his own time for the contract, and if he wishes to provide for the contingency arising from the renewal of a patent, he can embrace it in his contract for a stipulated compensation.

It may be true that, unless the contrary appear, when the patentee sells a planing machine, a right to use it may be applied. But the right to construct and the right to use are distinct. Some purchase of the patentee the right to construct the machine, others to use it. This planing machine cannot be compared to a plough, or any other article which may be considered the product of the patent. The machine is the instrument through which the plank is planed. The plank is the product, and may be sold in the market as other property. But the planing machine cannot be used, without a license. The law protects the franchise, by prohibiting the use of the machine without a license. When Barnet purchased the franchise for the fifty machines, he did not buy the machines for a term as long as the machines

must be construed to include only renewals obtained upon the surrender of a patent on account of a defective specification.

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could run, but for nine years and six months. The contract, neither expressly nor impliedly, extended beyond that term.

In this view, I think that I am not mistaken, and if I am not, the licensee is not injured a dollar by the termination of his right to run his machine, as fixed in his contract. But, on whom is the injury inflicted by extending the contract of the licensee with the patentee, and that without compensation? In the present case, the patentee has been injured, by the use of fifty machines, at least four thousand dollars, the amount agreed to be paid for the right to run them less than ten years. And must not the property of the patentee be taken into the account, as well as the imagined rights of the licensee?

The patentee is justly considered a public benefactor. He has conferred a great benefit upon the world, and he is entitled, under our laws, to at least a compensation for his expense, ingenuity and labor.

That the patentee is the only one whose interests are regarded, as the ground of extending the patent in the Act of 1836, is clear. Now, suppose the patentee has assigned the whole of the patent, without receiving such a compensation as the law authorizes; there can be no doubt he is entitled, on that ground, to a renewal of the patent; and yet, under the decision now given, his assignees would receive all the benefit of the renewal. Should not this fact cause doubts whether the rule of construction of the statute be a sound one, which defeats its avowed object? If this be the consequence of the assignment of the entire interest by the patentee, any partial assignment must produce the same result, though to a more limited extent. A principle which will not bear this test is not sound.

The Act of 1845, extending this patent, annexed no conditions. The exclusive right was extended to the administrator of Woodworth for seven years, from the 27th of December, 1849. But the decision now given, in effect, declares this exclusive right is not given. Indeed, the object of Congress must be defeated if the machines, in operation at the time of the passage of the act, are to be continued without compensation. It is presumed there are few places where planing machines were not constructed before 1849, the time the renewal took effect, if the public required them. On this supposition, the extension of the patent can be of little or no benefit to the heirs of the patentee. Congress could have granted the act only upon the ground to remunerate the heirs of the inventor.

There seems to be a great mistake as to the profits of this patent. It was a valuable patent, but, as in all other cases, its value excited the rapacity of men who seek to enrich themselves by taking the property of others. The records of the courts show that piracies were committed on this patent in

§ 119 *a*. The effect of a surrender and reissue on an extended patent has been considered in some of the other cases

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every part of the country; and that to sustain it, much expenditure and labor have been required. It is stated that the sum of near two hundred thousand dollars has been thus expended to establish this patent. Congress have extended many patents; in some instances conditions have been imposed; in others, the franchise has been extended unconditionally. Now, where the patent is extended by Act of Congress, without conditions, I am unable to perceive how the court can impose conditions. Such an act would be legislation, and not construction.

By the Act of the 15th February, 1847, the patent of Thomas Blanchard, for cutting irregular forms out of wood, brass, or iron, was extended for fourteen years from the 20th of January, 1848: 'Provided that such extension shall enure to the use and benefit of the said Thomas Blanchard, his executors and administrators and to no other persons whomsoever, except that a *bonâ fide* assignee of the invention, by virtue of an assignment from the patentee heretofore made, shall have the benefit of this act, upon just, reasonable and equitable terms, according to his interest therein. And if the said Thomas Blanchard, his executors or administrators, cannot agree with such assignee, the terms shall be ascertained and determined by the Circuit Court of the United States for the district in which such assignee resides, to be decreed upon a bill to be filed by such assignee for such purpose. And provided further, that no assignee shall have the benefit of this act unless he shall, within ninety days from its passage, agree with the said Thomas Blanchard as to the consideration upon which he is to have it, or file his bill,' &c.

Every one must perceive the justice and propriety of this act; under the decision now given, the assignee of Blanchard would have had the benefit of the extension without paying for it. This act, extending Blanchard's patent, was passed two years after the decision of this court in Wilson *v.* Rousseau, which, under the Act of 1836, gave the benefit of the extension to the assignee. This must have been known to Congress, and yet they deemed a special provision in behalf of the assignee necessary. This act, and several others of a similar character, cannot fail to convince every one that Congress did not suppose that the courts have power to annex a condition to a legislative grant.*

In the case of Evans *v.* Jordan and Morehead, (9 Cranch, 199,) this Court held, that the Act of January, 1808, for the relief of Oliver Evans, does not authorize those who erected their machinery between the expiration of their old patents and the issuing of the new one, to use it after the issuing of the latter.

The above act extended the patent fourteen years, 'provided that no person who may have heretofore paid the said Oliver Evans for license to

* See Blanchard's Gunstock Factory *v.* Warner, 1 Blatchford's R. 258, 275.

arising upon the patent for Woodworth's planing-machine. It has been held, that after an extension of a patent under the

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use the said improvements, shall be obliged to renew said license or be subject to damages for not renewing the same; and provided also, that no person who shall have used the said improvements, or have erected the same for use, before the issuing of the said patent, shall be liable to damages therefor.'

This was a much stronger case for equitable consideration than the one before us. Evans's patent had expired. His improvements were free to the public, and they were adopted by the defendants before he made application to Congress for a renewal of his patent. I will cite the reasoning of the Supreme Court on that case. 'The language,' they say, 'of this last proviso is so precise, and so entirely free from all ambiguity, that it is difficult for any course of reasoning to shed light upon its meaning. It protects against any claim for damages which Evans might make, those who have used his improvements, or who may have erected them for use, prior to the issuing of his patent under this law. The protection is limited to acts done prior to another act thereafter to be performed, to wit, the issuing of the patent. To extend it, by construction, to acts which might be done subsequent to the issuing of the patent, would be to make, not to interpret the law.' 'The injustice of denying to the defendants the use of machinery which they had erected after the expiration of Evans's first patent, and prior to the passage of this law, has been strongly urged as a reason why the mode of this proviso should be so construed as to have a prospective operation. But it should be recollected that the right of the plaintiff to recover damages for using his improvement after the issuing of his patent, under this law, although it had been erected prior thereto, arises not under this law, but under the general law of the 21st of February, 1793. The provisos in this law profess to protect, against the operation of the general law, three classes of persons — those who had paid Evans for a license prior to the passage of the law; those who may have used his improvements; and those who may have erected them for use before the issuing of the patent.'

And the court say, 'The legislature might have proceeded still further, by providing a shield for persons standing in the situation of these defendants. It is believed that the reasonableness of such a provision could have been questioned by no one. But the legislature have not thought proper to extend the protection of these provisos beyond the issuing of the patent under that law; and this Court would transgress the limits of the judicial power by an attempt to supply, by construction, this supposed omission of the legislature. The argument founded upon the hardship of this and similar cases, would be entitled to great weight if the words of this proviso were obscure and open to construction. But considerations of this nature can never sanction a construction at variance with the manifest meaning of the legislature, expressed in plain and an unambiguous language.'

18th section of the Act of 1836, the original patent becomes virtually a patent for the term of 21 years; and that on a

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The above views do not conflict with the opinion of the Court in Evans *v.* Eaton, 3 Wheat, 454. In that case the Court say: 'Some doubts have been entertained respecting the jurisdiction of the courts of the United States, as both the plaintiff and defendants are citizens of the same State. The fifth section of the Act to promote the progress of useful arts, which gives to every patentee a right to sue in a Circuit Court of the United States, in case his rights be violated, is repealed by the third section of the Act of 1800, which gives the action in the Circuit Court of the United States where a patent is granted, 'pursuant' to that act, or to the Act for the promotion of useful arts. This patent, it has been said, is granted, not in pursuance of either of those acts, but in pursuance of the Act 'for the relief of Oliver Evans.' But this Court is of opinion, that the Act for the relief of Oliver Evans, is ingrafted on the general Act for the promotion of useful arts, and that the patent is issued in pursuance of both. The jurisdiction of the Court is therefore sustained.'

There can be no question that the special law extending the grant, as to its validity, is subject to the general Patent Law. The right was intended to be exclusive, if it be established that Evans was the original inventor of the improvements claimed, and such improvements were stated with the necessary precision. And also that it came under the class of cases on which suit could be brought in the courts of the United States, without regard to the citizenship of the parties. But it could not have been intended to apply to any contract subsequent to the patent, and it could only be held to embrace those general provisions of the Patent Law which relate to the validity of the patent. Under the Act of Congress, a specification was necessarily filed, and it seems to be the practice to issue a patent under the act. This, it appears to me, is unnecessary, as the grant in the act is sufficient. But the schedule is necessary to show the nature and extent of the claim, and these must be sustained on those principles which apply to patents generally.

To give any other construction to the above remarks of the Court, would be in direct contradiction to the language used, and the principle decided, in the case above cited from Cranch. In fact, the remark that the relief of Evans was ingrafted on the general law, was made in reference to the jurisdiction of the Court, and cannot be extended beyond that and other questions, in relation to the validity of the patent.

This argument of the Court, in Evans *v.* Jordan, applies with all its force and authority to the case before us; and I need only say it was the language of Marshall, of Story, of Washington, and of the other judges of the court, except Judge Todd, who appears to have been absent. I can add nothing to

surrender and reissue, under the 13th section of the same act, after such an extension, "the residue of the period then unexpired, for which the original patent was granted," specified in that section, is the residue of the 21 years. The patent for 21 years is, in such case, to be regarded as "the original patent" within the meaning of that section. So that where the patent originally granted to Woodworth, on the 27th December, 1828, was extended by Act of Congress of February 26th, 1845, for a further period of seven years, after one extension of seven years had been obtained under the general law, it became a patent for 28 years from its original date; and when a reissue was granted "for the term of 28 years from the 27th day of December, 1828," such reissue was not invalid, but was in legal effect a patent for the residue only of the 28 years unexpired at the time of the reissue.[1]

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the weight of the argument; but I will proceed to name the judges of this Court who have given opinions opposed to the decision of this case by four of my brethren.

Mr. Justice Wayne, being sick, did not sit in the case. In Wilson *v.* Rousseau, he held that, under the Act of 1836, the licensee had no right to run his machine under the extended patent.

Mr. Justice Curtis having, as counsel, given an opinion opposed to the right of the defendants, did not sit in the case. Mr. Justice Thompson and Mr. Justice Story had both given opinions against the assignee, unless under a special assignment. This was the opinion of Mr. Justice Woodbury, as expressed in the case of Wilson *v.* Rousseau. Mr. Justice McKinley gave an opinion against the right of the assignee under the Act of 1845, extending Woodworth's patent. The same decision has been frequently given, by the justices of this bench, in the second and seventh circuits.

Sustained by the authority of seven justices of this Court, and by an argument of the Supreme Court, above cited, which, I think, is unanswerable, I shall deem it to be my duty to bring the same question now decided, when it shall arise in my circuit, for the consideration and decision of a full bench."

[1] Gibson *v.* Harris, 1 Blatchford's R. 168. In this case Mr. Justice Nelson said: "An objection has been taken on this motion to the validity of the new patent, issued on the 8th of July, 1845, on the surrender of the original one, on the ground that the Commissioner of Patents had no authority to issue it for the term of twenty-eight years.

The extension of a patent in pursuance of the 18th section of the Act of July 4th, 1836, is made by indorsing a certificate thereon to that effect; and the Act of February 26th, 1845, granting the last extension, has directed substantially the same thing to be done. The 18th section provides that after the indorsement of the certificate on the original patent, "the said patent shall have the same effect in law, as though it had been originally granted for the term of twenty-one years." The Act of Congress providing for the additional extension of seven years in this case, is not so explicit in its language, but the legal operation and effect of the grant come to the same thing.

The 13th section of the Act of July 4th, 1836, providing for the surrender of a patent and its reissue with an amended specification, authorizes the Commissioner to issue the new patent "for the residue of the period then unexpired for which the original patent was granted." The construction of this part of the 13th section was involved in the tenth question certified to the Supreme Court of the United States in the case of Wilson *v.* Rousseau, (4 How. 646.) It was there contended, upon the peculiar phraseology of the section, that the power of the Commissioner of Patents to receive a surrender and issue a new patent, was limited to the term of the original patent, the fourteen years, and that the surrender and reissue after the expiration of the original patent, were acts wholly unauthorized and void. But the Court held otherwise. After an extension under the 18th section, the original patent becomes, as has been shown, virtually a patent for the term of twenty-one years, and then, on a surrender and reissue, the residue of the period unexpired of the original patent is the residue of the term. The patent for twenty-one years is, in such case, to be regarded as "the original patent, within the meaning of the 13th section.

Now, if the extension by the Act of Congress of February 26th, 1845, is as effectual and operative as the one granted under the 18th section of the Act of 1836, (and it is difficult to see why it should not be,) then the patent, when so extended, became a patent for the period of twenty-eight years, instead of twenty-one years; and a surrender and reissue after such extension, stand on the same footing as if they were made in the case of a patent for twenty-one years. There can be no difference in principle or good sense.

The patent, in this case, has been issued in form, for the whole term of twenty-eight years, but as it dates and takes effect from the 27th of December, 1828, (the time of the granting of the original patent for the fourteen years,) it is, in legal effect, a patent for the residue only of the period unexpired at the time it was issued."

PART II.

PROCEEDINGS TO OBTAIN, RENEW,

OR

EXTEND A PATENT.

PART II.

PROCEEDINGS TO OBTAIN, RENEW, OR EXTEND A PATENT.

CHAPTER I.

THE SPECIFICATION.

§ 120. HAVING ascertained the kinds of subjects for which letters-patent may be obtained, and the parties entitled to take, renew, or extend them, we have now to state the proceedings requisite to the issuing, renewal, and extension of patents, and the principles which govern their construction. As the first step to be taken, in making application for a patent, is to prepare a written description of the invention or discovery, the requisites of this instrument, called the specification, and the rules for its construction, will first engage our attention.

§ 121. The Act of Congress, of July 4th, 1836, c. 357, § 6, contains the following enactment.

"But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of any machine, he shall fully explain the princi-

ple and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery. He shall, furthermore, accompany the whole with a drawing or drawings, and written references, where the nature of the case admits of drawing, or with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter; which descriptions and drawings, signed by the inventor and attested by two witnesses, shall be filed in the Patent Office; and he shall, moreover, furnish a model of his invention, in all cases which admit of a representation by model, of a convenient size to exhibit advantageously its several parts." [1]

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[1] The Act of 1793, c. 55, § 3, sets forth the requisites of a specification, as follows: "And be it further enacted, that every inventor, before he can receive a patent, shall swear or affirm, that *he does verily believe, that he is the true inventor or discoverer of the art, machine, or improvement, for which he solicits a patent;* which oath or affirmation may be made before any person authorized to administer oaths, and shall deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear and exact terms, as to distinguish the same from all other things before known, and to enable any person skilled in the art or science, of which it is a branch, or with which it is most nearly connected, to make, compound, and use the same. And in the case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions; and he shall accompany the whole with drawings and written references, where the nature of the case admits of drawings, or with specimens of the ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention is of a composition of matter; which description, signed by himself and attested by two witnesses, shall be filed in the office of the Secretary of State, and certified copies thereof shall be competent evidence, in all courts, where any matter or thing, touching such patent-right, shall come in question. And such inventor shall, moreover, deliver a model of his machine, provided, the secretary shall deem such model to be necessary."

§ 122. The specification, under our law, occupies a relation to the patent somewhat different from the rule in England. In England, the specification does not form part of the patent, so as to control its construction; but the rights of the inventor are made to depend on the description of his invention, inserted in the title of the patent, and cannot be helped by the specification, the object of which is to describe the mode of constructing, using, or compounding the invention mentioned in the patent.[1] But in the United States, the specification is drawn up and filed before the patent is granted, and is referred to in the patent itself, a copy being annexed. It is, therefore, the settled rule in this country, that the patent and the specification are to be construed together, in order to ascertain the subject-matter of the invention, and that the specification may control the generality of the terms of the patent, of which it forms a part.[2] In like manner, drawings annexed to a specification, in compliance with the statute, are held to form a part of it, and are to be regarded in the construction of the whole instrument.[3]

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[1] Phillips on Patents, p. 223; Godson on Patents, p. 108, 117; Hogg *v.* Emerson, 6 Howard, 437, 479.

[2] Whittemore *v.* Cutter, 1 Gallis. 429, 437; Barrett *v.* Hall, 1 Mas. 447, 477; Pitts *v.* Whitman, 2 Story's R. 609, 621. So, too, the specification may enlarge the recitals *of* the invention in the letters. Hogg *v.* Emerson, *ut supra.*

[3] Earle *v.* Sawyer, 4 Mas. 9. It seems, too, that drawings not *referred to* in the specification may be used to explain it. Washburn *v.* Gould, 3 Story's R. 122, 133; Brooks *v.* Bicknell, 3 McLean's R. 250, 261. But they must be drawings accompanying the specification, otherwise they do not form a part of it. In Hogg *v.* Emerson, 11 Howard, 587, 606, where the patent had been burned in the fire at the Patent Office, and afterwards recorded anew and the drawings restored, and the drawings exhibited a feature not described in the specification, it was held that the drawings were to be looked to in connection with the specification. Mr. Justice Woodbury, delivering the opinion of the Court, said: — "The next point before decided was, that the description was sufficiently clear and certain. Under the instructions of the Court, the jury found that it was clear enough to be understood by ordinary mechanics, and that machines and wheels

Where the term patent, therefore, is used in the following discussion of the rules of construction, it will be understood to include the specification and drawings annexed to it.[1]

§ 123. In construing patents, it is the province of the Court to determine what it is that is intended to be patented, and whether the patent is valid in point of law. Whether the invention itself be specifically described with reasonable certainty, is a question of law upon the construction of the terms of the patent; so that it is for the court to determine whether the invention is so vague and incomprehensible as, in point of law, not to be patentable; whether it is a claim for an improved machine, for a combination, or a single invention; and, in short, to determine what the subject-matter is, upon the whole face of the specification and the

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could readily be made from it, considering the specification as a whole, and adverting to the drawings on file. This is all which the law requires in respect to clearness, and it does not appear necessary to add any thing to what is cited and stated in the former opinion, in support of the instructions given below on this point.

The Court did right, too, in holding to the propriety of looking to the whole specification, and also to the drawings, for explanation of any thing obscure. The drawings, then, being proper to be referred to in illustration of the specification, they could be restored when burnt, and, if appearing in some respects erroneous, they could be corrected. That this last was done, and done well, was distinctly shown by Dr. Jones, a skilful draughtsman and expert. It would be unreasonable to prevent or refuse the correction of such errors, so as not to mislead or cause contradiction; because, after all, it is the specification which governs, and the drawings merely illustrate. It is true that it would not be proper to leave the drawings so long not restored nor corrected, as to evince neglect or a design to mislead the public; and the jury were allowed to decide what was a reasonable time for this purpose, under the circumstances of the case, and the duties imposed by law on the patentees."

[1] The 5th section of the Act of 1836 declares, that "every patent shall contain a short description, or title, of the invention or discovery, correctly indicating its nature and design," and "referring to the specification for the particulars thereof, a copy of which shall be annexed to the patent, specifying what the patentee claims as his invention or discovery." The Supreme

accompanying drawings.[1] It is, therefore, the duty of the jury to take the construction of the patent from the court, absolutely, where there are no terms of art made use of which require to be explained by evidence, and no surrounding circumstances to be ascertained as matter of fact, before a construction can be put upon the instrument. But where terms of art requiring explanation are made use of, or where the surrounding circumstances affect the meaning of the specification, these terms and circumstances are necessarily referred to the jury, who must take the construction from the court, conditionally, and determine it according as they find the facts thus put to them.[2]

§ 124. It is, on the other hand, the province of the jury to decide, on the evidence of experts, whether the invention is described in such full, clear, and exact terms, as to enable a skilful person to put it in practice from the specification

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Court of the United States, in a very recent case, have held, that wherever this form of letters, with a specification annexed and referred to, has been adopted, either before or since the Act of 1836, the specification is to be considered as part of the letters in construing them. Hogg *v.* Emerson, 6 Howard, 437, 482. This case having a second time come before the court, (11 Howard, 587, 604,) this point was reaffirmed.

[1] Davis *v.* Palmer, 2 Brock. 298; Lowell *v.* Lewis, 1 Mas. 189; Carver *v.* Braintree Manf. Co. 2 Story, 434, 437, 441; Washburn *v.* Gould, 3 Story, 122, 130, 137, 138, 140, 141; Davoll *v.* Brown. 1 Woodbury & Minot, 53, 56.

[2] Washburn *v.* Gould, *ut supra.* In Neilson *v.* Harford, Webs. Pat. Cas. 370, in the Exchequer, Parke, B., delivering the judgment of the court, said: — "Then we come to the question itself, which depends on the proper construction to be put on the specification itself. It was contended, that of this construction the jury were to judge. We are clearly of a different opinion. The construction of all written instruments belongs to the court alone, whose duty it is to construe all written instruments, as soon as the true meaning of the words in which they are couched, and the surrounding circumstances, if any, have been ascertained by the jury; and it is the duty of the jury to take the construction from the court, either absolutely, if there be no words to be construed as words of art, or phrases used in com-

itself.[1] As specifications are drawn by persons more conversant with the subject than juries, who are selected indiscriminately from the public, and as they are addressed to competent workmen, familiar with the science or branch of industry to which the subject belongs, the evidence of those persons must be resorted to who are able to tell the jury that they see enough on the face of the specification to enable them to make the article, or reproduce the subject of the patent without difficulty.[2]

§ 125. The rule of our law, that the specification may control the generality of the terms of the patent, must be subject to this qualification. If there is a clear repugnancy between the description of the invention as given in the specification, and the invention stated in the letters-patent, the patent will be void; for if the letters are issued for an invention that is not described in the specification, the statute is not complied with. The rule which allows the letters-patent to be controlled by the specification, cannot extend to a case where the terms of the former are inconsistent with those of the latter.[3]

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merce, and the surrounding circumstances to be ascertained, or conditionally, where those words or circumstances are necessarily referred to them. Unless this were so, there would be no certainty in the law; for a misconstruction by the court is the proper subject, by means of a bill of exceptions, of redress in a Court of Error, but a misconstruction by the jury cannot be set right at all effectually. Then, taking the construction of this specification upon ourselves, as we are bound to do, it becomes necessary to examine what the nature of the invention is which the plaintiff has disclosed by this instrument."

[1] Davis v. Palmer, 2 Brock. 298; Lowell v. Lewis, 1 Mas. 182, 190; Carver v. Braintree Manf. Co. 2 Story's R. 432, 437, 441; Washburn v. Gould, 3 Story's R. 122, 138; Davoll v. Brown, 1 Woodbury & Minot, 53, 57; Walton v. Potter, Webs. Pat. Cas. 585, 595.

[2] Walton v. Potter, Webs. Pat. Cas. 585, 595.

[3] The case of the King v. Wheeler, 4 B. & Ald. 345, presents an instance of the invention stated in the patent remaining wholly undescribed by the specification, which described something else.

§ 126. The general rule for the construction of patents in this country is, that they are to be construed liberally, and not to be subjected to a rigid interpretation. The nature and extent of the invention claimed by the patentee is the thing to be ascertained; and this is to be arrived at through the fair sense of the words which he has employed to describe his invention.[1]

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[1] Ames *v.* Howard, 1 Sumner, 482, 485. Mr. Justice Story said: — "Patents for inventions are not to be treated as mere monopolies, odious in the eyes of the law, and therefore not to be favored; nor are they to be construed with the utmost rigor, as *strictissimi juris*. The Constitution of the United States, in giving authority to Congress to grant such patents for a limited period, declares the object to be, to promote the progress of science and useful arts, an object as truly national and meritorious and well founded in public policy, as any which can possibly be within the scope of national protection. Hence it has always been the course of the American Courts, (and it has latterly become that of the English Courts also,) to construe these patents fairly and liberally, and not to subject them to any over-nice and critical refinements. The object is to ascertain what, from the fair sense of the words of the specification, is the nature and extent of the invention claimed by the party; and, when the nature and extent of that claim are apparent, not to fritter away his rights upon formal or subtle objections of a purely technical character."

In Blanchard *v.* Sprague, 3 Sumner, 535, 539, the same learned judge said: — "Formerly, in England, courts of law were disposed to indulge in a very close and strict construction of the specifications accompanying patents, and expressing the nature and extent of the invention. This construction seems to have been adopted upon the notion that patent-rights were in the nature of monopolies, and, therefore, were to be narrowly watched, and construed with a rigid adherence to their terms, as being in derogation of the general rights of the community. At present, a far more liberal and expanded view of the subject is taken. Patents for inventions are now treated as a just reward for ingenious men, and as highly beneficial to the public, not only by holding out suitable encouragements to genius and talents and enterprise, but as ultimately securing to the whole community great advantages from the free communication of secrets and processes and machinery, which may be most important to all the great interests of society, to agriculture, to commerce, and to manufactures, as well as to the cause of science and art. In America, this liberal view of the subject has always been taken; and, indeed, it is a natural, if not a necessary result, from the

§ 127. But, at the same time, it is to be observed, that the statute prescribes certain requisites for this description of an invention, which are of long standing; and the decisions of the courts, explaining and enforcing these requisites, have established certain rules of construction, intended to guard the public against defective or insufficient descriptions, on the one hand, and to guard inventors, on the other hand, against the acuteness and ingenuity and captious objections of rivals and pirates. The foundation of all these rules of construction is to be found in the object of the specification, which may be thus stated, in the language of the Supreme Court of the United States.

§ 128. The specification has two objects: one is, to make known the manner of constructing the machine (if the invention is of a machine) so as to enable artisans to make and use it, and thus to give the public the full benefit of the discovery after the expiration of the patent. The other object of the specification is, to put the public in possession of what the party claims as his own invention, so as to ascertain if he claim any thing that is in common use, or is already known, and to guard against prejudice or injury from the use of an invention which the party may otherwise innocently suppose not to be patented. It is, therefore, for the purpose of warning an innocent purchaser, or other person using a

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very language and intent of the power given to Congress by the Constitution on this subject. Congress (says the Constitution) shall have the power to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right of their respective writings and discoveries." Patents, then, are clearly entitled to a liberal construction, since they are not granted as restrictions upon the rights of the community, but are granted "to promote science and useful arts."

See, also, Ryan *v.* Goodwin, 3 Sumner, 514, where it is said that if the court can perceive, on the whole instrument, the exact nature and extent of the claim made by the inventor, it is bound to adopt that interpretation, and to give it full effect. See, also, Wyeth *v.* Stone, 1 Story's R. 270, 286; Davoll *v.* Brown, 1 Woodbury & Minot, 53, 57.

machine, of his infringement of the patent; and, at the same time, of taking from the inventor the means of practising upon the credulity or the fears of other persons, by pretending that his invention is more than what it really is, or different from its ostensible objects, that the patentee is required to distinguish his invention in his specification.[1]

§ 129. It has been justly remarked, by a learned writer, that the statute requisites for a good specification run so much into each other, in their nature and character, and are so blended together that it is difficult to treat of them separately.[2] But the leading purposes of the whole of the statute directions are two; *first*, to inform the public what the thing is of which the patentee claims to be the inventor, and therefore the exclusive proprietor during the existence of his patent; *second*, to enable the public, from the specification itself, to practise the invention thus described, after the expiration of the patent. The principles of construction, and the authorities from which they are drawn may therefore be discussed with reference to these two objects.

§ 130. I. The first rule for preparing a specification is,

To describe the subject-matter, or what the patentee claims to have invented, so as to enable the public to know what his claim is.

Whether the patentee has done this, in a given case, is, as we have seen, generally a question of law for the court, on the construction of the patent. It is not necessary that the language employed should be technical, or scientifically accurate, although at the same time it must not mislead. If the terms made use of will enable the court to ascertain clearly, by fair interpretation, what the party intends to claim, an inaccuracy or imperfection in the language will not vitiate the

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[1] Evans v. Eaton, 7 Wheaton, 356, 433.

[2] Phillips on Patents, p. 237.

specification.[1] But it must appear with reasonable certainty what the party intends to claim; for it is not to be left to minute references and conjectures, as to what was previously known or unknown; since the question is not, what was before known, but what the patentee claims as new.[2] If the patentee has left it wholly ambiguous and uncertain, so loosely defined, and so inaccurately expressed, that the court cannot, upon fair interpretation of the words, and without resorting to mere vague conjecture of intention, gather what the invention is, then the patent is void for this defect. But if the court can clearly see, what is the nature and extent of the claim, by a reasonable use of the means of interpretation of the language used, then, it is said, the patentee is entitled to the benefit of it, however imperfectly and inartificially he may have expressed himself. For this purpose, phrases standing alone are not to be singled out, but the whole is to be taken in connection.[3]

§ 131. The statute requires the patentee to give "a written

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[1] Wyeth *v.* Stone, 1 Story's R. 271, 286; Carver *v.* The Braintree Manf. Co. 2 Story's R. 408, 446; Neilson *v.* Harford, Webs. Pat. Cas. 331, 369; Bloxam *v.* Elsee, 1 Car. & P. 558.

[2] Lowell *v.* Lewis, 1 Mas. 182, 188. A general statement that the patented machine is, in all material respects, (without stating what respects) an improvement on an old machine, is no specification at all. *Ib.* See also Kneass *v.* The Schuylkill Bank, 4 Wash. 9. If the patent be for an improved machine, or for an improvement of a machine, (the meaning of the terms is the same) it must state in what the improvement specifically consists, and it must be limited to such improvement. If, therefore, the terms be so obscure or doubtful, that the court cannot say which is the particular improvement which the patentee claims, and to what it is limited, the patent is void for ambiguity; and, if it covers more than the improvements, it is void, because it is broader than the invention. Barrett *v.* Hall, 1 Mas. 447.

[3] Ames *v.* Howard, 1 Sumner, 482, 485. The drawings are to be taken in connection with the words, and if, by a comparison of the words and the drawings, the one would explain the other sufficiently to enable a skiful mechanic to perform the work, the specification is sufficient. Bloxam *v.* Elsee, 1 Car. & P. 558.

description of his invention or discovery." This involves the necessity, in all cases where the patentee makes use of what is old, of distinguishing between what is old and what is new. He is required to point out in what his invention or discovery consists; and if he includes in his description what has been invented before, without showing that he does not claim to have invented that, his patent will be broader than his invention, and therefore void.[1] Whatever appears to be

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[1] Dixon *v.* Moyer, 4 Wash. 68, 73. In this case, Mr. Justice Washington said: "It was insisted by the plaintiff's counsel, that this specification is perfectly intelligible to an artist, who could experience no difficulty in making such a saddle as is there described; and that if it be not so, still the defendant cannot avail himself of the defect, unless he had stated it in his notice, and also proved at the trial an intention in the plaintiff to deceive the public. But these observations are all wide of the objection, which is not that the specification does not contain the whole truth relative to the discovery, or that it contains more than is necessary. It is admitted that the specification does not offend in either of these particulars. But the objection is, that throughout the whole of a very intelligible description of the mode of making the saddle, the patentee has not distinguished what was new, from what was old and before in use, nor pointed out in what particulars his improvement consisted." See also Carpenter *v.* Smith, Webs. Pat. Cas. 530, 532, where Lord Abinger, C. B., said: "It is required as a condition of every patent, that the patentee shall set forth in his specification a true account and description of his patent or invention, and it is necessary in that specification that he should state what his invention is, what he claims to be new, and what he admits to be old; for, if the specification states simply the whole machinery which he uses, and which he wishes to introduce into use, and claims the whole of that as new, and does not state that he claims either any particular part, or the combination of the whole as new, why then his patent must be taken to be a patent for the whole, and for each particular part, and his patent will be void if any particular part turns out to be old, or the combination itself not new." See also Davis *v.* Palmer, 2 Brock. 298; Wyeth *v.* Stone, 1 Story's R. 73; Lowell *v.* Lewis, 1 Mas. 188, where Mr. Justice Story said: "The patentee is clearly not entitled to include in his patent the exclusive use of any machinery already known; and if he does, his patent will be broader than his invention, and consequently void. If, therefore, the description in the patent mixes up the old and the new, and does not distinctly ascertain for which, in particular, the patent is claimed, it must be void; since if it covers the whole, it covers too much,

covered by the claim of the patentee, as his own invention, must be taken as part of the claim, for courts of law are not at liberty to reject any part of the claim; and, therefore, if it turns out that any thing claimed is not new, the patent is void, however small or unimportant such asserted invention may be.[1]

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and, if not intended to cover the whole, it is impossible for the court to say what, in particular, is covered as the new invention."

[1] Moody *v.* Fisk, 2 Mas. 112, 118. In this case, Mr. Justice Story said: "Where the patentee claims any thing as his own invention, in his specification, courts of law cannot reject the claim: and, if included in the patent, and found not to be new, the patent is void."

In the case of Campion *v.* Benyon, 3 Brod. & B. 5, the patent was taken out for "an improved method of making sail-cloth, without any starch whatever." The real improvement consisted in a new mode of texture, and not in the exclusion of starch, the advantage of excluding that substance having been discovered and made public before. Park, J., said: "In the patentee's process he tells us that the necessity of using starch is superseded, and mildew thereby entirely prevented; but if he meant to claim as his own an improved method of texture or twisting the thread to be applied to the making of unstarched cloth, he might have guarded himself against ambiguity, *by disclaiming* as his own discovery the advantage of excluding starch." In this case, the specification itself furnished no means by which the generality of its expressions could be restrained. But there is a case where the literal meaning of terms which would have covered too much ground, was limited by other phrases used in the context. The specification stated the invention to be an improved apparatus for "extracting inflammable gas by heat, from pit-coal, tar, or *any other substance* from which gas or gases, capable of being employed, for illumination, can be extracted by heat." Lord Tenterden held that the words "any other substance" must mean other substances *ejusdem generis;* and, therefore, that it was not a fatal defect that the apparatus would not extract gas from oil; and that oil was not meant to be included, it being at that time considered too expensive for the making of gas for purposes of illumination, though it was known to be capable of being so used. Crossley *v.* Beverly, 3 Car. & P. 513; Webs. Pat. Cas. 106. Upon this distinction, Mr. Webster remarks that "the true principle would appear to be the intention of the party at the time, first, as expressed distinctly on the face of the specification; and secondly, as may be inferred therefrom, according to the state of knowledge at the time, and other circumstances." Webs. Pat. Cases, 110, note. — Where the patentee in his specification

§ 132. But there is a very important rule to be attended to, in this connection, which has been laid down by the Court of Common Pleas in England: namely, that a specification should be so construed, as, consistently with the fair import of language, will make the claim coextensive with the actual discovery. So that, a patentee, unless his language necessarily imports a claim of things in use, will be presumed not to intend to claim things which he must know to be in use.[1]

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claimed "an improvement in the construction of the axles or bearings of railway or *other wheeled carriages*," and it appeared that the improvement, though it had never before been applied to railway carriages, was well known as applied to other carriages, it was held that the patent was not good. Winans *v.* Providence R. Road Company, 2 Story's R. 412.

[1] Haworth *v.* Hardcastle, Webs. Pat. Cas. 480, 484. In this case, Sir N. C. Tindall, C. J., said: "As to the second ground upon which the motion for a nonsuit proceeded, we think, upon the fair construction of the specification itself, the patentee does not claim as part of his invention, either the rails or staves over which the calicoes and other cloths are to be hung, or the placing them at the upper part of the building. The use of rails and staves for this purpose was proved to have been so general before the granting of this patent, that it would be almost impossible *à priori* to suppose that the patentee intended to claim what he could not but know would have avoided his patent, and the express statement that he makes, 'that he constructs the stove or drying house in a manner nearly similar to those which are at present in use, and that he arranges the rails or staves on which the cloth or fabric is intended to be hung or suspended, near to the upper part of the said stove or drying house,' shows clearly that he is speaking of those rails or staves as of things then known and in common use, for he begins with describing the drying house as nearly similar to those in common use; he gives no dimensions of the rails or staves, no exact position of them, nor any particular description by reference, as he invariably does when he comes to that part of the machinery which is peculiarly his own invention. There can be no rule of law which requires the court to make any forced construction of the specification, so as to extend the claim of the patentee *to a wider range than the facts would warrant; on the contrary, such construction ought to be* made as will, consistently with the fair import of the language used, make the claim of invention coextensive with *the new discovery* of the grantee of the patent. And we see no reason to believe that he intended, under this specification, to claim either the staves, or the position of the staves as to their height in the drying house, as a part of his own invention."

§ 133. The object of the distinction between what is new and what is old is, to show distinctly what the patentee claims as his invention. But it has been said, that the mere discrimination between what is old and what is new will not, in all cases, show this, for perhaps the patentee does not claim all that is new.[1] But the meaning of the authorities, as well as the purpose of the statute, shows that the object of the specification is, to state distinctly what the patentee claims as the subject-matter of his invention or discovery; and the discrimination commonly made between what is new and what is old, is one of the means necessary to present clearly the subject-matter of the invention or discovery.[2] In order to make this discrimination, the patentee is not confined to any precise form of words.[3] The more usual form is to state affirmatively what the patentee claims as new, and, if he makes use of any thing old, to state negatively that he does not claim that thing.[4] It is not enough that the thing de-

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[1] Phillips on Patents, 270.

[2] See Barrett *v.* Hall, 1 Mas. 475; Woodcock *v.* Parker, 1 Gallis. 438; Whittemore *v.* Cutter, Ib. 478; Odiorne *v.* Winkley, 2 Gallis. 51; Evans *v.* Eaton, 3 Wheat. 534; 7 Ib. 356; Wyeth *v.* Stone, 1 Story's R. 273; Ames *v.* Howard, 1 Sumner, 482.

[3] Wyeth *v.* Stone, 1 Story's R. 73.

[4] If a specification truly sums up and distinguishes the invention of the patentee, it will not be open to the objection of being too broad, although it describes, with unnecessary minuteness, a process well known to those conversant with the art. Kneass *v.* The Schuylkill Bank, 4 Wash. 9, 14. See also Ames *v.* Howard, 1 Sumner, 482, 485. Mr. Godson gives the following directions for drawing specifications: "That the new parts of the subject may be more clearly seen and easily known, the patentee must not only claim neither more nor less than his own invention, but he must *not appear*, even unintentionally, to appropriate to himself any part which is old, or has been used in other manufactures. (Huddart *v.* Grimshaw, Dav. Pat. Cas. 295.) Those parts that are old and immaterial, or are not of the essence of the invention, should either not be mentioned, or should be named only to be designated as old. The patentee is not required to say that a screw or bobbin, or any thing in common use, is not part of his discovery; yet he must not adopt the invention of another person, however insignificant it may appear to be, without a remark. If any parts are described as essential,

signed to be embraced by the patent, should be made apparent on the trial, by a comparison of the new with the old machine. The specification must distinguish the new from the old, so as to point out in what the improvement consists.[1]

§ 134. In describing what is old, it is not always necessary to enter into detail. Things generally known, or in common use, may be referred to in general terms, provided they create no ambiguity or uncertainty, and provided such reference is accompanied by an intelligible description of what is new.[2] In describing an improvement of a machine, or, what is the same thing, an improved machine, great care must be taken not to describe the whole in such a way as to make it appear to be claimed as the invention of the patentee. The former machine, or other thing, should be set forth in the patent sufficiently to make known, according to the nature of the case, what it is that the patentee ingrafts his improvement upon; he should then disclaim the invention of the thing thus referred to or described, and state distinctly his improvement as the thing which he claims to have invented.[3]

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without a protest against any novelty being attached to them, it will seem, though they are old, that they are claimed as new. (Boyill *v.* Moore, Dav. Pat. Cas. 404; Manton *v.* Parker, Dav. Pat. Cas. 329.) The construction will be against the patentee, that he seeks to monopolize more than he has invented, or that, by dwelling, in his description, on things that are immaterial or known, he endeavors to deceive the public, who are not to be deterred from using any thing that is old by its appearing in the specification as newly invented. They are to be warned against infringing on the rights of the patentee, but are not to be deprived of a manufacture which they before possessed. (Dav. Pat. Cas. 279, and 3 Meriv. 629.) It seems, therefore, to be the safest way in the specification to describe the whole subject, and then to point out all the parts which are old and well known." Godson on Patents, 128.

[1] Dixon *v.* Moyer, 4 Wash. R. 68.

[2] Davis *v.* Palmer, 2 Brock. 298.

[3] In Hill *v.* Thompson, 8 Taunt. 375, Lord Ch. J. Dallas said, "This, like every other patent, must undoubtedly stand on the ground of improvement or discovery. If of improvement, it must stand on the ground of improvement invented; if of discovery, it must stand on the ground of the discovery

One of the most common defects in a specification, consists in that sort of vagueness and ambiguity in the manner of describing the invention, which makes it difficult or impossible to determine what the invention is. This is an objection distinct from an ambiguity in the terms made use of. Thus, where the directions contained in a specification were "to take any quantity of lead and calcine it, or minium, or red lead," the objection was that it was uncertain whether the minium and red lead were to be calcined, or only the lead.[1] So, too, if it be stated that a whole class of substances may be used to produce a given effect, when, in fact, only one is capable of being so used successfully, an ambiguity is at once produced, and the public are misled;[2] but if the patentee states the substances which he makes use of himself, and there are still other substances which will produce the effect, and he claims them by a generic description as comprehended within his invention, his claim will not be void for ambiguity, or too broad for his invention, provided the combination is new in respect to all the substances thus referred to.[3]

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of something altogether new; and the patent must distinguish and adapt itself accordingly." See also Bovill *v.* Moore, Dav. Pat. Cas. 398.

[1] Turner *v.* Winter, Webs. Pat. Cas. 80. Another objection taken, was, as to the white lead, which the patent professed to make by the same process by which it made something else; to which it was answered that the invention did not profess to make common white lead. Ashhurst, J., said, "But that is no answer; for if the patentee had intended to produce something only like white lead, or answering some of the purposes of common white lead, it should have been so expressed in the specification. But, in truth, the patent is for making white lead and two other things by one process. Therefore, if the process, as directed by the specification, does not produce that which the patent professes to do, the patent itself is void."

[2] Bickford *v.* Skewes, Webs. Pat. Cas. 218. If more parts be inserted than are necessary, as ten, where four are sufficient, the specification is void. The King *v.* Arkwright, Webs. Pat. Cases, 70.

[3] Ryan *v.* Goodwin, 3 Sumner, 514, 519. In this case, Mr. Justice Story said, "Then, as to the third point. This turns upon the supposed vagueness and ambiguity and uncertainty of the specification and claim of the invention

§ 135. In like manner, where a particular effect or purpose in machinery is a part of the invention, and that effect may

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thereby. The specification, after adverting to the fact, that the *loco-foco* matches, so called, are a compound of phosphorus, chlorate of potash, sulphuret of antimony, and gum arabic or glue, proceeds to state that the compound which he (Phillips) uses, 'consists simply of phosphorus, chalk, and glue;' and he then states the mode of preparing the compound, and the proportions of the ingredients; so that, as here stated, the essential difference between his own matches and those called *loco-foco*, consists in the omission of chlorate of potash and sulphuret of antimony, and using in lieu thereof chalk. He then goes on to state, that 'the proportions of the ingredients may be varied, and that gum arabic, or other gum may be substituted for glue; and other absorbent earths or materials may be used instead of carbonate of lime.' He afterwards sums up his invention in the following terms: 'What I claim as my invention is, the using of a paste or composition to ignite by friction, consisting of phosphorus, and [an] earthy material, and a glutinous substance only, without the addition of chlorate of potash, or of any other highly combustible material, such as sulphuret of antimony, in addition to the phosphorus. I also claim the mode herein described, of putting up the matches in paper, so as to secure them from accidental friction.' Upon this last claim I need say nothing, as it is not in controversy, as a part of the infringement of the patent, upon the present trial. Now, I take it to be the clear rule of our law in favor of inventors, and to carry into effect the obvious object of the constitution and laws in granting patents, 'to promote the progress of science and useful arts,' to give a liberal construction to the language of all patents and specifications, (*ut res magis valeat quam pereat*) so as to protect, and not to destroy the rights of real inventors. If, therefore, there be any ambiguity or uncertainty in any part of the specification; yet if, taking the whole together, the court can perceive the exact nature and extent of the claim made by the inventor, it is bound to adopt that interpretation, and to give it full effect. I confess that I do not perceive any ground for real doubt in the present specification. The inventor claims as his invention the combination of phosphorus with chalk or any other absorbent earth, or earthy material, and glue, or any other glutinous substance in making matches, using the ingredients in the proportions, substantially as set forth in the specification. Now, the question is, whether such a claim is good, or whether it is void, as being too broad and comprehensive. The argument seems to be, that the inventor has not confined his claim to the use of chalk, but has extended it to the use of any other absorbent earths or earthy materials, which is too general. So, he has not confined it to the use of glue, or even of gum arabic, but has extended it also to any other gum

be produced in several modes, it is sufficient for the patentee to state the modes which he contemplates as best, and his

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or glutinous substance, which is also too general. Now, it is observable, that the Patent Act of 1793, c. 55, does not limit the inventor to one single mode, or one single set of ingredients, to carry into effect his invention. He may claim as many modes as he pleases, provided always that the claim is limited to such as he has invented, and as are substantially new. Indeed, in one section, (§ 3,) the act requires, in the case of a machine, that the inventor shall fully explain the principle, and the several modes, in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions. The same enactment exists in the Patent Act of 1836, c. 357, § 6. I do not know of any principle of law, which declares that, if a man makes a new compound, wholly unknown before for a useful and valuable purpose, he is limited to the use of the same precise ingredients in making that compound; and that, if the same purpose can be accomplished by him by the substitution in part of other ingredients in the composition, he is not at liberty to extend his patent so as to embrace them also. It is true, that, in such a case, he runs the risk of having his patent avoided, if either of the combinations, the original, or the substituted, have been known or used before in the like combination. But, if all the various combinations are equally new, I do not perceive how his claim can be said to be too broad. It is not more broad than his invention. There is no proof, in the present case, that the ingredients enumerated in this specification, whether chalk or any other absorbent earth or earthy substance, were ever before combined with phosphorus and glue, or any gum or other glutinous substance, to produce a compound for matches. The objection, so far as it here applies, is not, that these gums or earths have been before so combined with phosphorus, but that the inventor extends his claim, so as to include all such combinations. There is no pretence to say, upon the evidence, that the specification was intended to deceive the public, or that it included other earthy materials than chalk, or other glutinous substances than glue, for the very purpose of misleading the public. The party has stated frankly, what he deems the best materials, phosphorus, chalk, and glue, and the proportions and mode of combining them. But, because he says that there may be substitutes of the same general character, which may serve the same purpose, thereby to exclude other persons from evading his patent, and depriving him of his invention, by using one or more of the substitutes, if the patent had been confined to the combination solely of phosphorus, chalk, and glue, I cannot hold that his claim is too broad, or that it is void. My present impression is, that the objection is not well founded. Suppose the invention had been of a machine, and the inventor had said, I use a wheel in a cer-

claim will not be void, as too vague or comprehensive, although he claims the variations from those modes as being equally his invention, without describing the manner of producing those variations.[1]

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tain part of the machine for a certain purpose, but the same effect may be produced by a crank, or a lever, or a toggle joint, and therefore I claim these modes also; it would hardly be contended, that such a claim would avoid his patent. I do not know that it has ever been decided, that, if the claim of an inventor for an invention of a compound states the ingredients truly, which the inventor uses to produce the intended effect, the suggestion, that other ingredients of a kindred nature may be substituted for some part of them, has been held to avoid the patent *in toto*, so as to make it bad for what is specifically stated. In the present case it is not necessary to consider that point. My opinion is, that the specification is not, in point of law, void, from its vagueness, or generality, or uncertainty."

[1] Carver *v.* Braintree Manf. Co. 2 Story's R. 432, 440. "Another objection is, that the plaintiff, in his claim, has stated, that the desired distance or space between the upper and the lower surfaces of the rib, whether it 'be done by making the ribs thicker at that part, or by a fork or division of the rib, or by any other variation of the particular form,' is a part of his invention. It is said, that the modes of forking and dividing are not specified, nor the variations of the particular form given. This is true; but then the Patent Act requires the patentee to specify the several modes 'in which he has contemplated the application of the distinguishing principle or character of his invention.' (Act of 1836, ch. 357, § 6.) Now, we all know that a mere difference of form will not entitle a party to a patent. What the patentee here says in effect is: One important part of my invention consists in the space or distance between the upper and lower surfaces of the ribs, and whether this is obtained by making the rib solid, or by a fork or division of the rib, or by any other variation of the form of the rib, I equally claim it as my invention. The end to be obtained is the space or distance equal to the fibre of the cotton to be gained; and you may make the rib solid, or fork it, or divide it, or vary its forms in any other manner, so as that the purpose is obtained. The patentee, therefore, guards himself against the suggestion, that his invention consists solely in a particular form, solid, or forked, or divided; and claims the invention to be his, whether the exact form is preserved or not, if its proportions are kept so as to be adapted to the fibre of the cotton which is to be ginned. In all this I can perceive no want of accuracy or sufficiency of description, at least so far as it is a matter of law, nor any claim, broader than the invention, which is either so vague or so comprehensive, as, in point of law, not to be patentable. It was not incumbent

§ 136. This kind of ambiguity is also distinguishable from the want of clear or specific directions, which will enable a mechanic to make the thing described. A specification may be perfectly sufficient, as to the point of stating what the invention is, and yet the directions for making the thing may be so vague and indefinite, as not to enable a skilful mechanic to accomplish the object.[1] It is for this reason, as we have seen, that the question, whether the specification discloses what the invention is, is a question for the court on construction of the patent; while the question, whether it sufficiently describes the mode of carrying the invention into practice, is a question for the jury.[2]

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on the patentee to suggest all the possible modes by which the rib might be varied, and yet the effect produced. It is sufficient for him to state the modes which he contemplates to be best, and to add, that other mere formal variations from these modes he does not deem to be unprotected by his patent."

[1] It may not, perhaps, be easy to draw a precise line of distinction between a specification so uncertain as to claim no particular improvement, and a specification so uncertain as not to enable a skilful workman to understand the improvement and to construct it. Yet we think the distinction exists. If it does, it is within the province of the jury to decide whether a skilful workman can carry into execution the plan of the inventor. In deciding this question, the jury will give a liberal common-sense construction to the directions of the specification." Per Marshall, C. J., in Davis *v.* Palmer, 2 Brock. 298, 308.

[2] Thus, in the case of a patent for "a new and useful improvement in the ribs of the cotton gin," Mr. Justice Story said, "It is true, that the plaintiff in his specification, in describing the thickness of the rib in his machine, declares, that it should be so thick, that the distance or depth between the upper and the lower surface should be 'so great as to be equal to the length of the fibre to be ginned,' which, it is said, is too ambiguous and indefinite a description to enable a mechanic to make it, because it is notorious, that not only the fibres of different kinds of cotton are of different lengths, long staple and short staple, but that the different fibres in the same kind of cotton are of unequal lengths. And it is asked, what then is to be the distance or depth or thickness of the rib? Whether a skilful mechanic could, from this description, make a proper rib for any particular kind of cotton, is a matter of fact, which those only, who are acquainted with the structure of cotton gins, can properly answer. If they could, then the description is sufficient,

§ 137. The ambiguity produced by a too great fulness of detail in the specification is likely to mislead, both in determining what the invention claimed is, and in determining whether it is described with such accuracy as will enable a competent workman to put it in practice. We shall have occasion hereafter to state the rule, that the patentee is bound to disclose the most advantageous mode known to him, and any circumstance conducive to the advantageous operation of his invention; and it is a correlative of this rule, that, if things wholly useless and unnecessary are introduced into the specification, as if they were essential, although the terms are perfectly intelligible, and every necessary description has been introduced, and the parts claimed are all newly invented, the patent may be declared void. The presumption, in such cases, according to the English authorities, is, that the useless and unnecessary descriptions were introduced for the purpose of overloading the subject and clouding the description, in order to mislead the public and conceal the real invention.[1]

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although it may require some niceties in adjusting the different thicknesses to the different kinds of cotton. If they could not, then the specification is obviously defective. But I should suppose, that the inequalities of the different fibres of the same kind of cotton would not necessarily present an insurmountable difficulty. It may be, that the adjustment should be to be made according to the average length of the fibres, or varied in some other way. But this is for a practical mechanic to say, and not for the Court. What I mean, therefore, to say on this point is, that, as a matter of law, I cannot say that this description is so ambiguous, that the patent is upon its face void. It may be less perfect and complete than would be desirable, but still it may be sufficient to enable a skilful mechanic to attain the end. In point of fact, is it not actually attained by the mechanics employed by Carver, without the application of any new inventive power or experiments? If so, then the objection could be answered as a matter of fact or a practical result." Carver *v.* The Braintree Manufacturing Company, 2 Story's R. 432, 437.

[1] In Arkwright's case, several things were introduced into the specification, of which he did not make use. Buller, J., said, "Wood put No. 4, 5, 6, and 7, together, and that machine he has worked ever since; he don't recollect that the defendant used any thing else. If that be true, it will

§ 138. There is one case where it seems to have been held that an improved mode of working his machine by the patentee, different from the specification of his patent, casts upon him the burden of showing that he made the improvement subsequently to the issuing of his patent, otherwise it will be presumed that he did not disclose in his specification the best method known to him.[1] But where a patentee of an improved machine claimed, as his invention, a part of it which turned out to be useless, it was held that this did not vitiate the patent, the specification not describing it as essential to the machine.[2] At the same time, it is necessary that the specification should be full and explicit enough to prevent the public from infringing the right of the patentee. An infringement will not have taken place, unless the invention can be practised completely by following the specification; otherwise, it has been said, it would be an infringement to do that perfectly, which, according to the specification, requires

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blow up the patent at once; he says he believes nobody that ever practised would find any thing necessary upon this paper but the No. 4, 5, 6, and 7; he should look after no others. Now if four things only were necessary, instead of ten, the specification does not contain a good account of the invention." The King *v.* Arkwright, Webs. Pat. Cas. 70.

In Turner's patent for producing a yellow color, minium was directed to be used among other things, but it appeared that it would not produce the desired effect. The same learned judge said, "Now in this case no evidence was offered by the plaintiff to show that he had ever made use of the several different ingredients mentioned in the specification, as for instance minium, which he had nevertheless inserted in the patent; nor did he give any evidence to show *how* the yellow color was produced. If he could make it with two or three of the ingredients specified, and he has inserted others which will not answer the purpose, that will avoid the patent. So if he makes the article, for which the patent is granted, with cheaper materials than those which he has enumerated, although the latter will answer the purpose equally well, the patent is void, because he does not put the public in possession of his invention, or enable them to derive the same benefit which he himself does." Turner *v.* Winter, 1 T. R. 602, 607. See also Savory *v.* Price, R. & M. 1.

[1] Bovill *v.* Moore, Dav. Pat. Cas. 361, 401.

[2] Lewis *v.* Marling, 10 B. & Cress. 22.

something else to be done to make it perfect. An infringement is a copy made after and agreeing with the principle laid down in the patent;[1] and if the patent does not fully describe every thing essential to the making or doing of the thing patented, there will be no infringement by the fresh invention of processes which the patentee has withheld from the public.[2]

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[1] Per Sir N. Tindal, C. J., in Galloway *v.* Bleaden, Webs. Pat. Cas. 523.

[2] This doctrine was very clearly laid down by Alderson, B., in Morgan *v.* Seaward, Webs. Pat. Cas. 167, 181. "Then Henry Mornay, a young gentleman in Mr. Morgan's employment, where he has been apparently studying the construction of engines, speaks of a circumstance which does appear to me to be material. He says, Mr. Morgan in practice makes his rods of different lengths. He must necessarily do so, in order that the floats may follow at the same angle as that at which the driving float enters the water. The problem which Mr. Park solved is a problem applying to three floats only; but it appears that the other floats will not follow in the same order, unless some adjustment of the rods is made. Now, suppose it was to be desired that the floats should all enter the water at the given or required angle, if one should go in at one angle, and one at another, the operation of the machine would not be uniform; and the specification means that the party constructing a wheel, should be able to make a wheel, the floats of which shall all enter at the same angle, and all go out at the same angle. Now, in order in practice to carry that into effect, if there are more than three floats, something more than Mr. Park's problem would be required; and Mr. Mornay says actually, that Mr. Morgan in practice makes his rods of different lengths, and he must necessarily do that in order that the floats may follow at the same angle as the driving float enters the water. If so, he should have said in his specification, 'I make my rods of different lengths, in order that the rest of my floats may enter at the same angle; and the way to do that is so and so.' Or he might have said, 'it may be determined so and so.' But the specification is totally silent on the subject; therefore, a person reading the specification would never dream that the other floats must be governed by rods of unequal length; and least of all could he ascertain what their lengths should be, until he had made experiments. Therefore it is contended that the specification does not state, as it should have stated, the proper manner of doing it. He says, if they are made of equal lengths, though the governing rod would be vertical at the time of entering, and three would be so when they arrived at the same spot, by reason of the operation Mr. Park suggests, yet the fourth would not come vertical at the proper point, nor would the fifth, sixth, or seventh. Then they would not accomplish that advan-

§ 139. The ambiguity produced by a misuse of terms, so as to render the specification unintelligible, will be as fatal as any other defect. Thus, where the directions were to use "sea-salt, or sal-gem, or fossil-salt, or any marine-salt," and it appeared that "sal-gem" was the only thing that could be used, and that "fossil-salt" was a generic term, including "sal-gem," as well as other species of salt, it was held that the use of the term "fossil-salt" could only tend to mislead, and to create unnecessary experiments, and therefore that the specification was in that respect defective.[1] In like manner where the specification directed the use of "the finest and purest chemical white-lead," and it appeared that no such substance was known in the trade by that name, but that white-lead only was known, the specification was held defect-

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tage which professes to be acquired. The patentee ought to state in his specification the precise way of doing it. If it cannot completely be done by following the specification, then a person will not infringe the patent by doing it. If this were an infringement, it would be an infringement to do that perfectly, which, according to the specification, requires something else to be done to make it perfect. If that be correct, you would prevent a man from having a perfect engine. He says, practically speaking, the difference in the length of the rods would not be very material, the difference being small. But the whole question is small, therefore it ought to have been specified; and, if it could not be ascertained fully, it should have been so stated. Now this is the part to which I was referring, when, in the preliminary observations I addressed to you, I cited the case before Lord Mansfield, on the subject of the introduction of tallow to enable the machine to work more smoothly. There it was held, that the use of tallow ought to have been stated in the specification. This small adjustment of these different lengths may have been made for the purpose of making the machine work more smoothly; if so, it is just as much necessary that it should be so stated in the specification, as it was that the tallow should be mentioned. The true criterion is this, has the specification substantially complied with that which the public has a right to require? Has the patentee communicated to the public the manner of carrying his invention into effect? If he has, and if he has given to the public all the knowledge he had himself, he has done that which he ought to have done, and which the public has a right to require from him."

[1] Turner *v.* Winter, 1 T. R. 606.

ive.[1] But a mere mistake of one word for another in writing or printing, if explained by other parts of the patent and specification, as the use of the word "painting" for "printing," is immaterial.[2]

§ 140. The description of an improvement, when an improvement is the real subject-matter of the patent, should be made in such a manner as will clearly show that the improvement only is claimed by the patentee. If a machine substantially existed before, and the patentee makes an improvement therein, his patent should not comprehend the whole machine in its improved state, but should be confined to his improvement;[3] and this is true, although the invention of the patentee consists of an addition to the old machine, by which the same effects are to be produced in a better manner, or some new combinations are added, in order to produce new effects.[4] But if well-known effects are produced by machinery which, in all its combinations, is entirely new, the subject-matter will be a new machine, and, of course, the patent will cover the whole machine.[5]

§ 141. If the invention be an improvement, and be claimed as such, but nothing is said of any previous use, of which the use proposed is averred to be an improvement, the patent may incur the risk of being construed as a claim of entire and original discovery. Hence arises the necessity for reciting what had formerly been done, and describing a different mode as the improvement claimed.[6]

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[1] Sturz *v.* De La Rue, Webs. Pat. Cas. 83.

[2] Kneass *v.* The Schuylkill Bank, 4 Wash. 9.

[3] Woodcock *v.* Parker, 1 Gallis. 438; Odiorne *v.* Winkley, 2 Gallis. 51; Barrett *v.* Hall, 1 Mas. 447, 476.

[4] Whittemore *v.* Cutter, 1 Gallis. 478.

[5] Ibid.

[6] In Hill *v.* Thompson, Webs. Pat. Cas. 226, 228, 229, the specification contained, among other things, the following claim: "And that my said improvements do further consist in the use and application of lime to iron, sub-

§ 142. But, in describing the improvement of a machine in use and well known, it is not necessary to state in detail the

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sequently to the operations of the blast furnace, whereby that quality in iron from which the iron is called "cold short," howsoever and from whatever substance such iron be obtained, is sufficiently prevented or remedied, and by which such iron is rendered more tough when cold." "And I do further declare, that I have discovered that the addition of lime or limestone, or other substances consisting chiefly of lime, and free or nearly free from any ingredient known to be hurtful to the quality of iron, will sufficiently prevent or remedy that quality in iron from which the iron is called "cold short," and will render such iron more tough when cold; and I do, for this purpose, if the iron, howsoever and from whatever substance the same may have been obtained, be expected to prove "cold short," add a portion of lime or limestone, or of the other said substances, of which the quantity must be regulated by the quality of the iron to be operated upon, and by the quality of the iron wished to be produced; and further, that the said lime or limestone, or other aforesaid substances, may be added to the iron at any time subsequently to the reduction thereof, in the blast furnace, and prior to the iron becoming clotted, or coming into nature, whether the same be added to the iron while it is in the refining or in the puddling furnace, or in both of them, or previous to the said iron being put into either of the said furnaces." It appeared that "cold short" had been prevented by the use of lime before; and Dallas, J., said, "The purpose is, to render bar iron more tough, by preventing that brittleness which is called "cold short," and which renders bar iron less valuable; the means of prevention stated, are the application of lime. In what way, then, is lime mentioned in the patent? The first part of the specification, in terms, alleges certain improvements in the smelting and working of iron, during the operations of the blast furnace; and then, introducing the mention of lime, it states, that the application of it to iron, subsequently to the operation of the blast furnace, will prevent the quality called "cold short."

So far, therefore, the application of lime is, in terms, claimed as an improvement, and nothing is said of any previous use, of which the use proposed is averred to be an improvement; it is, therefore, in substance, a claim of entire and original discovery. The recital should have stated, supposing a previous use to be proved in the case, that, "whereas lime has been in part, but improperly, made use of," &c., and then a different mode of application and use should have been suggested as the improvement claimed. But the whole of the patent must be taken together, and this objection will appear to be stronger as we proceed. And here, again, looking through the patent, in a subsequent part of the specification, the word "discovery" first occurs, and I will state the terms made use of in this respect. "And I do

structure of the entire and improved machine. It is only necessary to describe the improvement, by showing the parts of which it consists, and the effects which it produces.[1] In the case of machinery, there is a particular requisition in the statute, designed to insure fulness and clearness in the specification. "And in case of any machine, he (the patentee) shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery.[2] By the principle of a machine, as used in this clause of the statute, is to be understood the peculiar structure and mode of operation of such machine;[3] or, as the statute itself explains it, the character by which it may be distinguished from other inventions. By explaining "the several modes in which he has contemplated the application of that principle," the statute is presumed to direct the patentee to point out all the modes of applying the principle which he claims to be his own invention, and which

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further declare, that I have discovered that the addition of lime will prevent that quality in iron from which the iron is called "cold short," and will render such iron more tough when cold; and that, for this purpose, I do add a portion of lime or limestone, to be regulated by the quantity of iron to be operated upon, and by the quality of the iron to be produced, to be added at any time subsequently to the reduction in the blast furnace, and this from whatever substance the iron may be produced, if expected to prove "cold short." Now this appears to be nothing short of a claim of discovery, in the most extensive sense, of the effect of lime applied to iron to prevent brittleness, not qualified and restrained by what follows, as to the preferable mode of applying it under various circumstances, and, therefore, rendering the patent void, if lime had been made use of for this purpose before, subject to the qualification only of applying it subsequently to the operations in the blast furnace."

[1] Brooks *v.* Bicknell, 3 M'Lean's R. 250, 261.

[2] Act of July 4, 1836, § 6.

[3] Whittemore *v.* Cutter, 1 Gallis. 478, 480; Barrett *v.* Hall, 1 Mas. 447, 470.

he means to have covered by his patent, whether they are those which he deems the best, or are mere formal variations from the modes which he prefers. In other words, he is to state not only the peculiar device or construction which he deems the best for producing the new effect exhibited in his machine, but also all the other modes of producing the same effect, which he means to claim, as being substantially applications of the same principle. But, in doing this, it is not, as we have seen, necessary for him to enter into a minute description of the mode of producing those variations of structure which he thus claims, in addition to the structure which he prefers. It is sufficient, if he indicates what variations of the application of the principle he claims beyond those which he deems the best.[1]

§ 143. The duty of determining what the claim of the patentee is, involves the necessity of determining whether the description in the specification discloses a patentable subject. The real invention may be a patentable subject; but, at the same time, it may be claimed in such a way as to appear to be a mere function, or abstract principle, which it will be the duty of the court to declare is not patentable; whereas, if it had been described differently, it would have been seen to be a claim for a principle or function, embodied in a particular organization of matter for a particular purpose, which is patentable. The patentee may have been engaged in investigations into the principles of science or the laws of nature. He may have attained a result, which constitutes a most important and valuable discovery, and he may desire to protect that discovery by a patent; but he cannot do so by merely stating his discovery in a specification. He must give it a practical application to some useful purpose, to attain a result in arts or manufactures not before

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[1] See the observations of Mr. Justice Story, cited *ante*, from the case of Carver *v.* The Braintree Manuf. Co. 2 Story's R. 432, 440.

attained; and his specification must show the application of the principle to such a special purpose, by its incorporation with matter in such a way as to be in a condition to produce a practical result.[1] Care should be taken, therefore,

[1] In The Househill Co. *v.* Neilson, Webs. Pat. Cas. 673, 683, Lord Justice Clerk Hope, in the Court of Sessions, made the following clear observations to the jury: — "It is quite true that a patent cannot be taken out solely for an abstract philosophical principle; for instance, for any law of nature, or any property of matter, apart from any mode of turning it to account in the practical operations of manufacture, or the business and arts and utilities of life. The mere discovery of such a principle is not an invention, in the patent-law sense of the term. Stating such a principle in a patent may be a prolongation of the principle, but it is no application of the principle to any practical purpose. And, without that application of the principle to a practical object and end, and without the application of it to human industry, or to the purposes of human enjoyment, a person cannot in the abstract appropriate a principle to himself. But a patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science, or law of nature, if that principle is, by the specification, applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained.

The main merit, the most important part of the invention, may consist in the conception of the original idea, in the discovery of the principle in science or of the law of nature, stated in the patent; and little or no pains may have been taken in working out the best manner and mode of the application of the principle to the purpose set forth in the patent. But still, if the principle is stated to be applicable to any special purpose, so as to produce any result previously unknown, in the way and for the objects described, the patent is good. It is no longer an abstract principle. It comes to be a principle turned to account, to a practical object, and applied to a special result. It becomes, then, not an abstract principle, which means a principle considered apart from any special purpose or practical operation, but the discovery and statement of a principle for a special purpose; that is, a practical invention, a mode of carrying a principle into effect. That such is the law, if a well-known principle is applied for the first time to produce a practical result, for a special purpose, has never been disputed. It would be very strange and unjust to refuse the same legal effect, when the inventor has the additional merit of discovering the principle, as well as its application to a practical object. The instant that the principle, although discovered for the first time, is stated in actual application to, and as the agent of, producing a certain specified effect, it is no longer an abstract principle; it is then clothed with the language of prac-

in drawing specifications, not to describe the invention as a mode or device for producing an effect detached from machinery, or from the particular combination or use of matter by which the effect is produced.[1] The danger, in such cases, is, that the claim will appear to be a claim for an abstract principle, or for all possible modes of producing the effect in question, instead of being, what alone it should be, a claim for the particular application of the principle which the patentee professes to have made.

§ 144. This is well illustrated by several cases. In one, the invention claimed, was "the communication of motion from the reed to the yarn-beam, in the connection of the one with the other, which is produced as follows," describing the mode. The patent was sustained, only by construing it as a claim for the specific machinery invented by the patentee for the communication of motion from the reed to the yarn-beam, specially described in the specification. As a claim for all possible modes of communicating the motion, &c., it would have been utterly void.[2] In another case, a patent "for an improvement in the art of making nails, by means of a machine which cuts and heads the nails at one operation," was seen at once not to be a grant of an abstract principle, but of a combination of mechanical contrivances operating to produce a new effect, and constituting an improvement in the art of making nails.[3] So too, where the patentee, in a patent for a machine for turning irregular forms, claimed "the method or mode of operation in the abstract, explained in the second article, whereby the infinite variety of forms, described in general terms in this article, may be turned or wrought," and the second article in his specification explained the struct-

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tical application, and receives the impress of tangible direction to the actual business of human life."

[1] Barrett *v.* Hall, 1 Mas. 476.

[2] Stone *v.* Sprague, 1 Story's R. 270.

[3] Gray *v.* James, Peters's Circ. C. R. 394.

ure of a machine, by which that mode of operation was carried into effect, and the mode of constructing such a machine so as to effect the different objects to be accomplished, it was held that the specification did not claim an abstract principle or function, but a machine.[1] So also, it has been held that the making of wheels on a particular principle which is described in the specification, is the subject of a patent;[2] and, where the plaintiff claimed as his invention, "the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair, as above decribed," it was held not to be a claim to a principle, but to an application to a certain purpose, and by certain means.[3]

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[1] Blanchard *v.* Sprague, 2 Story's R. 164, 170. In this case, Mr. Justice Story said: "Looking at the present specification, and construing all its terms together, I am clearly of opinion, that it is not a patent claimed for a mere function; but it is claimed for the machine specially described in the specification; that is, for a function as embodied in a particular machine, whose mode of operation and general structure are pointed out. In the close of his specification, the patentee explicitly states that his "invention is described and explained in the second article of his specification, to which reference is made for information of that which constitutes the principle or character of his machine or invention, and distinguishes it, as he verily believes, from all other machines, discoveries or inventions known or used before." Now, when we turn to the second article, we find there described not a mere function, but a machine of a particular structure, whose modes of operation are pointed out, to accomplish a particular purpose, function, or end. This seems to me sufficiently expressive to define and ascertain what his invention is. It is a particular machine, constituted in the way pointed out, for the accomplishment of a particular end or object. The patent is for a machine, and not for a principle or function detached from machinery."

[2] Jones *v.* Pearce, Webs. Pat. Cas. 123.

[3] Minter *v.* Williams, Webs. Pat. Cas. 134. "*Godson*, in pursuance of leave reserved, moved for a nonsuit, on the ground that the specification is for a principle, the plaintiff having summed up the whole of his patent in his claim to the principle, and not to any particular means. Either the plaintiff claims a principle, or he does not; to the former he is not entitled; and as to the latter, the defendant has not used the mechanical means of the plaintiff." [Lord *Lyndhurst*, C. B.: He says: "What I claim as my invention is,

§ 145. But, on the other hand, a claim to a principle, to be carried into effect by any means, without describing an appli-

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the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair, as above described." This is what he claims, a self-adjusting leverage acting in that way. Then he points out the particular mode in which that is effected. The question, therefore, is, whether you have infringed that particular method.] [*Alderson*, B.: All the witnesses proved that there never had been a self-adjusting leverage in a chair before.] That I admit, and contend that this case is nearly the same as K. *v.* Cutler, (1 Stark. 354; Webs. Pat. Cas. 76, n.) [Lord *Lyndhurst*, C. B.: He says, "I claim the application of a self-adjusting leverage to the back and seat of a chair," so as to produce such an effect.] Yes, my lord, that effect being nothing more than the motion of a lever backwards and forwards, producing such an effect. [Lord *Lyndhurst*, C. B.: It is the application of a self-adjusting leverage to the back and seat of a chair, he having described what that self-adjusting leverage was before. Any application of a self-adjusting leverage to the back and seat of a chair producing this effect, that the one acts as a counterbalance to the pressure against the other, would be an infringement of this patent, but nothing short of that.] [*Alderson*, B.: The difference between this chair and all others, as it appeared in evidence, was very well described by Mr. Brunton; he says, this chair acts, (looking at the one you produced,) this chair acts, but not by a self-adjusting leverage. By pressing on the back the seat rises, and *vice versâ*, by pressing on the seat the back rises; that is what he calls a self-adjusting leverage. In the other case, you might sit forever, and the back would never rise.] The plaintiff, by his specification, has appropriated to himself a first principle in mechanics, namely, the lever, and therefore nobody else may use it. [Lord *Lyndhurst*, C. B.: It is not a leverage only, but the application of a self-adjusting leverage; and it is not a self-adjusting leverage only, but it is a self-adjusting leverage producing a particular effect, by the means of which the weight on the seat counterbalances the pressure against the back.] This is nothing more than one of the first principles of mechanics. [*Parke*, B.: But that, not being in combination before, can that not be patented? It is only for the application of a self-adjusting leverage to a chair — cannot he patent that? He claims the combination of the two, no matter in what shapes or way you combine them; but if you combine the self-adjusting leverage, which he thus applies to the subject of a chair, that is an infringement of his patent.] What is the combination? [Lord *Lyndhurst*, C. B.: Why the application of a self-adjusting leverage producing a particular effect. He says, I do not confine myself to the particular shape of this lever.]

cation of the principle by some means, is a claim to the abstract principle. As where a specification stated that "It is claimed as new, to cut ice of a uniform size by means of an apparatus worked by any other power than human," it was held that this claim to the art of cutting ice by means of any other power than human was utterly void.[1] It is, therefore, essential that the specification should describe some practical mode of carrying the principle into effect; and then the subject-matter will be patentable, because it will be, not the principle itself, but the mode of carrying it into effect; and, on the question of infringement, it will be for the jury to say, whether another mode of carrying it into effect is not a colorable imitation of the mode invented by the patentee.[2]

If your lordships translate this to mean machine, of course I have no further argument to urge. [Lord *Lyndhurst*, C. B.: It is every machine consisting of a self-adjusting leverage producing that particular effect in a chair.] That is the extent to which I am putting it. If your lordships say you can, in favor of the patentee, so read it, that it is the machine and the combination only that the plaintiff has claimed, then I should be wasting your lordship's time if I argued the matter further. [Lord *Lyndhurst*, C. B.: Substantially that combination.] [*Parke*, B.: Therefore a chair made upon that principle which you have directed to be constructed here, would be an infringement of his patent, that is, the application of a self-adjusting leverage to a chair, such a one as you have produced here to-day.] [Lord *Lyndhurst*, C. B.: It has the particular effect.] Rule refused.

[1] Wyeth *v.* Stone, 1 Story's R. 271, 285.

[2] In Neilson *v.* Harford, Webs. Pat. Cas. 342, Alderson, B., said: "I take the distinction between a patent for a principle and a patent which can be supported, is, that you must have an embodiment of the principle in some practical mode, described in the specification, of carrying the principle into actual effect, and then you take out your patent, not for the principle, but for the mode of carrying the principle into effect. In Watt's patent, which comes the nearest to the present of any you can suggest, the real invention of Watt was, that he discovered that, by condensing steam in a separate vessel, a great saving of fuel would be effected by keeping the steam cylinder as hot as possible, and applying the cooling process to the separate vessel, and keeping it as cool as possible, whereas, before, the steam was condensed in the same vessel; but, then, Mr. Watt carried that practically into effect, by describing a mode which would effect the object. The difficulty which

§ 146. This being the case, the question next arises, whether it is necessary, after having described the application of the principle by some mechanical contrivance, or other arrangement of matter, to claim, in the specification, all the other forms of apparatus, or modifications of matter, by which the principle may also be applied in order to produce the same beneficial effect, or whether the patent does not cover all these, without particular description, by covering the application of the principle. When we consider that the subject-matter of such a patent is, the application of the principle effected by means of some machinery, or other arrangement, it will be apparent that the reason why the patentee is bound to describe some machinery or practical method of making the application, is in order to show that he has actually applied the principle, and to enable others to do so after him. But the real subject of the patent is the practical application of the principle; and hence, although the means by which the patentee has made that application must be described, in order to show that he has done what he says he has done, and to enable others to do what he says can be done, yet a variation of the means and machinery, if it produces the same beneficial effect, that is, is the same application of the same principle, does not show that the party making such variation has not infringed the patent, by making use of that which exclusively belonged to another, namely, the application of the principle to produce a particular effect.

§ 147. Examples will best illustrate this distinction. Minter's patent, for a self-adjusting chair, which has been already referred to, was a case of the application of a well-known principle, that of the lever, for the first time applied to a

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presses on my mind here, is, that this party has taken out a patent, in substance like Watt's, for a principle, that is, the application of hot air to furnaces, but he has not practically described any mode of carrying it into effect. If he had, perhaps he might have covered all other modes, as being a variation."

chair. He made no particular claim of shape or form for the construction of the chair, but showed that if a lever was applied to the back of the chair, so that the weight of the seat would act as a counterpoise to the back, in whatever posture the occupant might be sitting or reclining, a self-adjusting chair would be obtained. Now, there might be various modes of constructing a chair on this principle; but as the constructing of chairs on this principle was the true subject of the patent, the court held the making of any chair upon the same principle of a self-adjusting leverage, was an infringement.[1]

§ 148. Neilson's patent involved the principle of blowing furnaces, for the smelting of iron, with a blast of hot air, instead of cold, and he applied that principle by finding out a mode by which air may be introduced in a heated state into the furnace, viz., by heating the air in a close vessel between the blowing apparatus and the furnace. The specification, after stating that the air, heated up to red heat, may be used, but that it is not necessary to go so far to produce a beneficial effect, proceeded to state that the size of the receptacle would depend on the blast necessary for the furnace, and gave directions as to that. It then added, "The shape of the receptacle is immaterial to the effect, and may be adapted to local circumstances." After great consideration, it was held that the word "effect" was not meant to apply to the degree of heat to be given to the air in the heating receptacle, but that any shape of the heating receptacle would produce the beneficial effect of passing heated air into the furnace. This construction settled what the patent was for, viz., the application of the principle of blowing with hot air, by means of a vessel in which the air should be heated, on its passage from the blowing apparatus to the furnace. Consequently, the subject-matter embraced all the forms of appa-

[1] Minter v. Wells, Webs. Pat. Cas. 134.

ratus by which the application of the same principle could be effected.[1]

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[1] Neilson. *v.* Harford, Webs. Pat. Cas. 295, 369. The same patent was litigated in Scotland, and upon the point of the generality of the claim, as regards the forms of the apparatus, Lord Justice Clerk Hope made the following observations to the jury: "Is it any objection, then, in the next place, to such a patent, that terms, descriptive of the application to a certain specified result, include every mode of applying the principle or agent so as to produce that specified result, although one mode may not be described more than another — although one mode may be infinitely better than another — although much greater benefit would result from the application of the principle by one method than by another — although one method may be less expensive than another? Is it, I next inquire, an objection to the patent, that, in its application of a new principle to a certain specified result, it includes every variety of mode of applying the principle according to the general statement of the object and benefit to be attained? You will observe, that the greater part of the defenders' case is truly directed to this objection. This is a question of law, and I must tell you distinctly, that this generality of claim, that is, for all modes of applying the principle to the purpose specified, according to or within a general statement of the object to be attained, and of the use to be made of the agent to be so applied, is no objection whatever to the patent. That the application or use of the agent for the purpose specified, may be carried out in a great variety of ways, only shows the beauty and simplicity and comprehensiveness of the invention. But the scientific and general utility of the proposed application of the principle, if directed to a specified purpose, is not an objection to its becoming the subject of a patent. That the proposed applications may be very generally adopted in a great variety of ways, is the merit of the invention, not a legal objection to the patent.

The defenders say — you announce a principle, that hot air will produce heat in the furnace; you direct us to take the blast without interrupting, or rather without stopping it, to take the current in blast, to heat it after it leaves the blast, and to throw it hot into the furnace. But you tell us no more — you do not tell us how we are to heat it. You say you may heat in any way, in any sort of form of vessel. You say, I leave you to do it how you best can. But my application of the discovered principle is, that, if you heat the air, and heat it after it leaves the blowing engine, (for it is plain you cannot do it before,) you attain the result I state; that is the purpose to which I apply the principle. The benefit will be greater or less; I only say, benefit you will get; I have disclosed the principle; I so apply it to a specified purpose by a mechanical contrivance, viz., by getting the heat when in blast, after it leaves the furnace; but the mode and manner, and extent of

§ 149. In this case, it was also laid down by Parke, B., to the jury, that the omission to mention in the specification any

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heating, I leave to you, and the degree of benefit, on that very account, I do not state. The defenders say, the patent, on this account, is bad in law. I must tell you, that, taking the patent to be of this general character, it is good in law. I state to you the law to be, that you may obtain a patent for a mode of carrying a principle into effect; and if you suggest and discover, not only the principle, but suggest and invent how it may be applied to a practical result, by mechanical contrivance and apparatus, and show that you are aware that no particular sort, or modification, or form of the apparatus, is essential, in order to obtain benefit from the principle, then you may take your patent for the mode of carrying it into effect, and you are not under the necessity of describing and confining yourself to one form of apparatus. If that were necessary, you see, what would be the result? Why, that a patent could hardly ever be obtained for any mode of carrying a newly discovered principle into practical results, though the most valuable of all discoveries. For the best form and shape, or modification of apparatus, cannot, in matters of such vast range, and requiring observation on such a great scale, be attained at once; and so the thing would become known, and so the right lost, long before all the various kinds of apparatus could be tried. Hence you may generally claim the mode of carrying the principle into effect by mechanical contrivance, so that any sort of apparatus applied in the way stated, will, more or less, produce the benefit, and you are not tied down to any form.

The best illustration I can give you, and I think it right to give you this illustration, is from a case as to the application of that familiar principle, the lever to the construction of chairs, or what is called the self-adjusting lever. (Minter's Patent, Webs. Pat. Cas. 126 and 134.) This case, which afterwards came under the consideration of the whole court, was tried in the Court of Exchequer during the presidency of Lord Lyndhurst. The case was, as to the patent reclining chair, the luxury of which some of you may have tried; it had a self-adjusting lever, so that a person sitting or reclining, — and I need not tell you what variety of postures can be assumed by a person reclining in a chair, — in whatever situation he placed his back, there was sufficient resistance offered through means of the lever, to preserve the equilibrium. Now any thing more general than that I cannot conceive; it was the application of a well-known principle, but for the first time applied to a chair. He made no claim to any particular parts of the chair, nor did he prescribe any precise mode in which they should be made; but what he claimed was, a self-adjusting lever to be applied to the back of a chair, where the weight of the seat acts as a counterpoise to the back, in whatever posture the party might be sitting or reclining. Nothing could be

thing which the patentee knows to be necessary for the beneficial enjoyment of the invention, is a fatal defect; but the omission to mention something which contributes only to the degree of benefit, provided the apparatus would work beneficially and be worth adopting, is not a fatal defect.[1]

§ 150. As it is the duty of the Court to determine, on the construction of the patent, what the subject-matter is, it is often necessary to decide whether the patentee claims a combination of several things, or the distinct invention of several things, or both. General principles cannot be laid down for the determination of questions of this kind, depending exclusively on the particular facts. There is, however, one circumstance that will always be decisive in construing a patent, against a claim for the several things described in the specification, and that is, that one or more of them is not new. If this turns out to be the case, the question may then be, whether the patent can be sustained for the combination.[2] In determining this question it is to

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more general. Well, a verdict passed for the patentee, with liberty to have it set aside; but Lord Lyndhurst and the rest of the court held, that this was not a claim to a principle, but to the construction of a chair on this principle, in whatever shape or form it may be constructed. (Minter *v.* Wells, Webs. Pat. Cas. 134.) Just so as to the hot blast, only the principle is also new. The patentee says, "I find hot air will increase the heat in the furnace, that a blast of hot air is beneficial for that end." Here is the way to attain it — "heat the air under blast, between the blowing apparatus and the furnace; if you do that, I care not how you may propose to do it — I neither propose to you, nor claim, any special mode of doing it; you may give the air more or less degrees of heat; but if you so heat it, you will get, by that contrivance, the benefit I have invented and disclosed, more or less, according to the degree of heat." This is very simple, very general; but its simplicity is its beauty, and its practical value — not an objection in law." The Household Company *v.* Neilson, Webs. Pat. Cas. 684, 686.

[1] Neilson *v.* Harford, Webs. Pat. Cas. 317.

[2] For some of the cases where the question has been between a combination, or a claim for several distinct things, see Howe *v.* Abbott, 2 Story's R. 190; Ames *v.* Howard, 1 Sumner, 482; Prouty *v.* Ruggles, 16 Peters, 336;

be observed, that a patent for a combination of three things cannot, at the same time, be a patent for a combination of any two of them. If the subject-matter is the combination of any given number of things, or processes, or parts, no portion of the combination less than the whole can be considered at the same time as being also the subject-matter.[1]

§ 151. The rule which we have thus endeavored to illustrate, which requires the patentee so to describe his invention as to enable the public to know what his claim is, of course imposes upon him the duty of not misleading the public, either by concealing any thing material to the invention, or by adding any thing not necessary to be introduced. The ambiguity which we have been considering in the preceding pages, may be produced involuntarily; but there is a special provision of the statute, aimed at the voluntary concealment or addition of any thing material. The statute enacts it, as one of the defences to an action on a patent, that the specification "does not contain the whole truth relative to his invention or discovery, or that it contains more than is necessary to produce the described effect; which concealment or addition shall fully appear to have been made for the purpose of deceiving the public."[2] This defence will be made good, when it appears that the patentee fraudulently concealed something that he knew to be material to the practice of his invention, or fraudulently added something which he knew was not useful, material, or necessary, at the time when he prepared his specification. If it was subsequently discovered not to be useful, material, or necessary, his patent will not be affected by it.[3]

S. C. Prouty *v.* Draper, 1 Story, 568; Pitts *v.* Whitman, 2 Story's R. 609; Carver *v.* Braintree Manuf. Co. 2 Story's R. 432.

[1] Prouty *v.* Draper, 1 Story, 568, 572; S. C. Prouty *v.* Ruggles, 16 Peters, 336.

[2] Act of July 4th, 1846, § 15.

[3] See *Post*, in the chapter on Infringement, and also in the chapter on Remedy by Action.

§ 152. II. The second rule for preparing a specification is, *To describe the invention in such a manner as to enable the public to practice it from the specification alone.*

§ 153. The statute requires the patentee to describe "the manner and process of making, constructing, using, and compounding his invention or discovery, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and, in case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery."

§ 154. We have seen that the question, whether a specification answers this requisite of the statute, is a question of fact for the jury; and, although it is not necessary that technical terms should be made use of in a specification, they often are made use of, and often require to be explained by evidence. In judging of a specification, therefore, a distinction must be taken between that sort of ambiguity which a person unacquainted with technical terms would encounter, and the ambiguity which might appear to a person skilled in the particular art. It is not necessary that the specification should contain an explanation level with the capacity of every person, which would often be impossible.[1] The statute allows the patentee to address himself to persons of competent skill in the art, and it requires him to use such full, clear, and exact terms, as will enable that class of persons to reproduce the thing described from the description itself. It

[1] Per Story, J., in Lowell *v.* Lewis, 1 Mas. 182.

is, therefore, important to ascertain what the rules of construction are, which define what will constitute an ambiguity or uncertainty to artists and persons skilled in the subject.

§ 155. And *first*, with regard to the persons whose judgment and apprehension are thus appealed to. They are not those who possess the highest degree of skill or knowledge in the particular art or science to which the subject-matter belongs, nor are they day-laborers; they are practical workmen, or persons of reasonably competent skill in the particular art, science, or branch of industry. If persons of the highest skill were those whom the law has in contemplation, the object of a specification, which is to enable competent persons to reproduce the thing patented, without making experiments, inventions, or additions of their own, could not generally be answered.[1]

§ 156. *Secondly*, as to the application of their knowledge and skill, by such persons, to the understanding and carrying out of the description given by the patentee. The description must be such as will enable persons of competent skill and knowledge to construct or reproduce the thing described, without invention or addition of their own, and without repeated experiments.[2] Thus it has been held, that any

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[1] The King *v.* Arkwright, Dav. Pat. Cas. 106; Webs. Pat. Cas. 64; Lowell *v.* Lewis, 1 Mas. 182; Harmer *v.* Playne, 11 East, 101. And see particularly the observations of Mr. Baron Parke, cited *Post*, from Neilson *v.* Harford.

[2] The King *v.* Arkwright, Webs. Pat. Cas. 66, 67, 69, 70. It will not do to rely for the correction of errors on the ordinary knowledge of competent workmen. In Neilson *v.* Harford, the specification contained a particular passage, which the jury found to be untrue; but they also found that any workman of competent knowledge of the subject would correct the statement. Parke, B.: — "Nor do we think that the point contended for by Sir William Follett, that if a man acquainted well with the process of heating air were employed, this misstatement would not mislead him, would at all relieve the plaintiffs from the difficulty; for this would be to support

material alteration to be made in existing apparatus or machinery, must be stated, and not left to be supplied by the workman; as, with reference to the materials employed, or their form, or the speed of the parts, or their relative dimensions, where these are material.[1] So, too, the specification is insufficient, if information must be derived from experiments, or from seeing others make the thing described;[2] or,

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the specification by a fresh invention and correction by a scientific person, and no authority can be found that, in such a case, a specification would be good. To be valid, we think it should be such as, if fairly followed out by a competent workman, without invention or addition, would produce the machine for which the patent is taken out, and that such machine, so constructed, must be one beneficial to the public." Webs. Pat. Cas. 37.

[1] *Ibid.* p. 67.

[2] *Ibid.* p. 67, 70, 71. Upon this point Buller, J., said: — "Immison says, that, from the specification, he should have made a parallel cylinder, and not a spiral one; but this is the one used by the defendant. As to the rollers, it does not appear from the specification some were to go faster than others; from the specification, without other sources, it is impossible to say how they should be made, as there is no scale or plan to work by. A roller is necessary to the feeder, to give regular direction to the work; it will not answer without it. From the knowledge he has now, he should add a roller if he was directed to make the machine. But that does not prove the specification to be sufficient; because if a man, from the knowledge he has got from three trials, and seeing people immediately employed about it, is able to make use of it; if his ideas improve the plan, and not the merit of the specification; if he makes it complete, it is his ingenuity, and not the specification of the inventor." . . . "Upon the other hand, several respectable people are called upon the part of the defendant, who say they could do it, but there is this difference in their description; most, if not every one of them, have looked at and seen how the machines were worked by the defendant, and have got their knowledge by other means, and not from the specification and plan alone; besides, they admit the manner the defendant works it is not consistent with the plan laid down, particularly as to the cylinder, a particular part of the business; for Moore says this, upon the face of it, must be taken to be a parallel, whereas that which plainly appears to be used is a spiral. Besides, after all this, they have spoken, most of them, in a very doubtful way, particularly Mr. Moore, who qualified his expression in the way which I have stated to you; and the others qualifying their expressions, saying they think, upon the whole, they could do it. Suppose

as it has also been said, if it requires the solution of a problem.[1] And, generally, a specification, to be valid, must be

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it perfectly clear they could, with the subsequent knowledge they had acquired, yet if it be true that sensible men, that know something of this particular business, and mechanics in general, cannot do it, it is not so described as is sufficient to support this patent."

[1] In Morgan *v.* Seaward, Webs. Pat. Cas. 170, 174, Alderson, B., said: — "If the invention can only be carried into effect by persons setting themselves a problem to solve, then they who solve the problem become the inventors of the method of solving it, and he who leaves persons to carry out his invention, by means of that application of their understanding, does not teach them in his specification that which, in order to entitle him to maintain his patent, he should teach them, the way of doing the thing, but sets them a problem, which, being suggested to persons of skill, they may be able to solve. That is not the way in which a specification ought to be framed. It ought to be framed so as not to call on a person to have recourse to more than those ordinary means of knowledge, (not invention,) which a workman of competent skill in his art and trade may be presumed to have. You may call upon him to exercise all the actual existing knowledge common to the trade, but you cannot call upon him to exercise any thing more. You have no right to call upon him to tax his ingenuity or invention. Those are the criteria by which you ought to be governed, and you ought to decide this question according to those criteria. You are to apply those criteria to the case now under consideration, and you should apply them without prejudice, either one way or the other; for it is a fair observation to make, that both parties here stand, so far as this observation is concerned, on a footing of perfect equality. The public, on the one hand, have a right to expect and require that the specification shall be fair, honest, open, and sufficient; and, on the other hand, the patentee should not be tripped up by captious objections, which do not go to the merits of the specification. Now, applying those criteria to the evidence in the cause, if you shall think that this invention has been so specified that any competent engineer, having the ordinary knowledge which competent engineers possess, could carry it into effect by the application of his skill and the use of his previous knowledge, without any inventions on his part, and that he could do it in the manner described by the specification, and from the information disclosed in the specification, then the specification would be sufficient. If, on the other hand, you think that engineers of ordinary and competent skill would have to set themselves a problem to solve, and would have to solve that problem before they could do it, then the specification would be bad." See, also, Gray *v.* James, 1 Pet. C. C. R. 376.

such as, when fairly followed out by a competent workman, without invention or addition, the object of the patent may be obtained.[1]

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[1] In Neilson *v.* Harford, Webs. Pat. Cas. 295, 313, Parke, B., instructed the jury as follows: — "Now, then, understanding the meaning of this specification to be the sense I have given to it, that he claims as his invention a mode of heating the blast between the blowing apparatus and the furnace, in a vessel exposed to the fire, and kept to a red heat, or nearly, (and which description I think sufficient,) of the size of a cubic foot for a smith's forge, or the other size mentioned, or of any shape, these questions will arise for your decision. It is said that, understanding it in that sense, the patent is void, because there are no directions given for any mode of constructing the instrument. But, understanding the patent in that sense, it seems to me, that, if you should be of opinion that a person of competent skill (and I will explain to you what I mean by that,) would, nevertheless, construct such a vessel as would be productive of some useful and beneficial purpose in the working of iron, that the patent, nevertheless, is good, though no particular form of vessel is given. Then it is to be recollected that this claim is a patent-right, a right of heating in any description of vessel; and, in order to maintain that right, it is essential to the heating in any description of vessel, either the common form, the smith's forge, the cupola, or the blast-furnace, that it should be beneficial in any shape you may choose for all those three purposes. Now, then, I think, therefore, that this is correctly described in the patent; and if any man of common understanding, and ordinary skill and knowledge of the subject, and I should say in this case that the subject is the construction of the blowing apparatus; such a person as that is the person you would most naturally apply to, in order to make an alteration of this kind; if you are of opinion, on the evidence, that such a person as that, of ordinary skill and knowledge of the subject, (that is, the construction of the old blowing apparatus,) would be able to construct, according to the specification alone, such an apparatus as would be an improvement; that is, would be productive practically of some beneficial result, no matter how great, provided it is sufficient to make it worth while (the expense being taken into consideration,) to adapt such an apparatus to the ordinary machinery, in all cases of forges, cupolas, and furnaces, where the blast is used. In that case, I think the specification sufficiently describes the invention, leaving out the other objection, (to which I need not any further direct your attention,) that there is not merely a defective statement in the specification, unless these conditions were complied with, but there is a wrong statement. But leaving out the wrong statement for the present, and supposing that it was not introduced, then, if, in your opinion, such a

§ 157. Slight defects in a specification will sometimes prevent the object of the patent from being obtained, by any competent person who may undertake to apply it, and will therefore render the patent void, because they create a necessity for the exercise of inventive power, on the part of the person who thus undertakes to apply the description. As, the omitting to state the use of tallow, which the patentee employed for facilitating the manufacture of steel trusses:[1] or, in a patent medicine, stating the ingredients, without stating the proportions.[2] If any thing be omitted, which gives an advantageous operation to the thing invented, it will vitiate the patent; as, the omission to state the use of a material, *aqua-fortis*, which the patentee used himself for obtaining the effect more rapidly;[3] for the patentee is bound to give the most advantageous mode known to him, and any circumstance conducive to the advantageous operation; otherwise, he does not pay the price for his monopoly, because he

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person as I have described, a man of ordinary and competent skill, would erect a machine which would be beneficial in all those cases, and be worth while to erect. In that case, it seems to me that this specification is good; and the patent, so far as it relates to this objection, will be good. It is to be a person only of ordinary skill and ordinary knowledge. You are not to ask yourselves the question, whether persons of great skill, — a first-rate engineer, or a second-class engineer, as described by Mr. Farey — whether they would do it; because, generally, those persons are men of great science and philosophical knowledge, and they would, upon a mere hint in the specification, probably invent a machine which would answer the purpose extremely well. But that is not the description of persons to whom this specification may be supposed to be addressed; it is supposed to be addressed to a practical workman, who brings the ordinary degree of knowledge and the ordinary degree of capacity to the subject; and if such a person would construct an apparatus that would answer some beneficial purpose, whatever its shape was, according to the terms of this specification, then I think that this specification was good, and that the patent may be supported so far as relates to that."

[1] Liardet *v.* Johnson, Webs. Pat. Cas. 53.

[2] Ibid, 54, note.

[3] Wood *v.* Turner, Webs. Pat. Cas. 82.

does not give the public the benefit of all that he knows himself.[1]

§ 158. So, too, if a specification directs the use of a substance, which, as generally known, contains foreign matter, the presence of which is positively injurious, and does not show any method of removing that foreign matter, or refer to any method generally known, or state how the substance in a proper state can be procured, the specification will be defective.[2]

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[1] Morgan *v.* Seaward, Webs. Pat. Cas. 175, 182. See the remarks of Alderson, B., cited *ante*. See also, The King *v.* Arkwright, Webs. Pat. Cas. 66; Walton *v.* Bateman, Ibid. 622; Turner *v.* Winter, Ibid, 81, where the employment of cheaper materials than those mentioned in the specification, or the insertion of materials which would not answer, were said to be sufficient to avoid a patent.

[2] Derosne *v.* Fairie, Webs. Pat. Cas. 154, 162. In this very instructive case, Lord Abinger, C. B., said: "Upon the main point, however, that respecting the bituminous schistus, nothing that I have heard has removed my original impression, that there was no evidence to show that this process, carried on with bituminous schistus, combined with any iron whatsoever, would answer at all. The plaintiff himself has declared, that, in that bituminous schistus which he himself furnished, the whole of the iron was extracted; and it appears, that it was admitted by the counsel, that the presence of iron would not only be disadvantageous, but injurious. Thus, then, it appearing by the evidence that, in all the various forms in which the article exists in this country, sulphuret of iron is found, and the witnesses not describing any known process by which it can be extracted, it appears to me that the plaintiff ought to prove one of two things — either that the sulphuret of iron in bituminous schistus, is not so absolutely detrimental as to make its presence disadvantageous to the process, (in which case, this patent would be good,) or that the process of extracting the iron from it is so simple and well known, that a man may be able to accomplish it with ease. As the bituminous schistus which was procured and used, was exclusively that which was furnished by the plaintiff, not in its original state, but after it had undergone distillation, and had been made into charcoal in a foreign country; and as, in that stage of its preparation, it could not be discovered by examining it, whether it was made from one substance or another, (the residuum, after distillation, of almost every matter, vegetable as well as animal, being a charcoal mixed more or less with other things,) then there is only the

§ 159. In like manner, a specification will be defective, if an article be described by a particular name, the patentee knowing that the requisite article cannot ordinarily be procured under the name by which it is described in the specification, and it be not stated where it may be procured; because the public have not that full and precise information which they have a right to require.[1] A specification will also be defective, which states that the manner in which a power is to be applied varies with the circumstances in some measure, without showing in what the improvement consists, as distinguished from all former modes of doing the same thing.[2] If obscure terms be employed for the sake of concealment, so as to induce the belief that elaborate processes are necessary, when the simplest will succeed, the specification is bad;[3] and if a patentee states that he prefers a certain material, having ascertained that no other will answer, he misleads the public.[4]

§ 160. The rule, however, which forbids a patentee to leave

plaintiff's statement to prove that the substance which was furnished by him and used, was charcoal of bituminous schistus. It appeared, also, that he had declared to one of the witnesses, that he had extracted all the iron from the substance so sent, and that it also underwent another process. I am, therefore, of opinion that, without considering whether or not the patent would be avoided by the process requiring the use of means to extract the iron from the bituminous schistus, which were kept secret by the patentee, he has not shown in this case, that what he has described in the patent could be used as so described, without injury to the matter going through the process. Under all these circumstances, I think that the plaintiff ought to have given some evidence to show that bituminous schistus, in the state in which it is found and known in England, could be used in this process with advantage, and, as he has not done that, the defendants are entitled to a nonsuit; but, at the same time, as it is alleged that the plaintiff may supply the defect of proof, as to the schistus, on a new trial, by other evidence, we are desirous that the patent, if a good one, should not be affected by our judgment, and think it right to direct a new trial on the terms which have been stated."

1 Sturz *v.* De La Rue, Webs. Pat. Cas. 83.

2 Sullivan *v.* Redfield, Paine's C. C. R. 441, 450, 451.

3 Savory *v.* Price, Webs. Pat. Cas. 83.

4 Crompton *v.* Ibbotson, Ibid. 83.

the public to find out by experiment how to apply his discovery or invention, is subject to one important limitation. If, for instance, the specification of a patent for a composition of matter is so drawn, that no one can use the invention, without first ascertaining by experiment the exact proportion of the different ingredients required to produce the intended result, the patent will be void. But it has been determined by the Supreme Court of the United States, that if, in such a specification, the patentee gives a certain proportion as the general rule applicable to the ordinary state of the ingredients, he may, without the risk of having his patent declared void by the court, for vagueness and uncertainty, state other and variable proportions as exceptions to the rule, applicable to the varying states of the ingredients, although the precise proportion adapted to a given state of the ingredients, other than the usual state, can only be ascertained by computing it from the general rule, after the particular state of the ingredients is ascertained. In such cases, it is for the jury to decide, on the evidence of experts, whether the general rule given is susceptible of application, and whether it furnishes the means of determining the proportions to be used, in the excepted cases, by the exercise of the ordinary knowledge and skill of the workman.[1]

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[1] Wood *v.* Underhill, 5 How. S. C. R. 1, 3, 4. The specification in this case was as follows: "Be it known that I, the said James Wood, have invented a new and useful improvement in the art of manufacturing bricks and tiles. The process is as follows: Take of common anthracite coal, unburnt, such quantity as will best suit the kind of clay to be made into brick or tile, and mix the same, when well pulverized, with the clay before (it) is moulded; that clay which requires the most burning, will require the greatest proportion of coal-dust; the exact proportion, therefore, cannot be specified; but, in general, three fourths of a bushel of coal-dust to one thousand brick will be correct. Some clay may require one eighth more, and some not exceeding a half-bushel. The benefits resulting from this composition are, the saving of fuel, and the more general diffusion of heat through the kiln, by which the contents are more equally burned. If the heat is raised too high, the brick will swell, and be injured in their form. If the heat is too moderate, the coal dust will be consumed before the desired effect is produced.

§ 161. But, although it is necessary that a specification should clearly and fully describe the invention, and should

Extremes are, therefore, to be avoided. I claim as my invention, the using of fine anthracite coal, or coal dust, with clay, for the purpose of making brick and tile as aforesaid, and for that only, claim letters-patent from the United States." Mr. Chief Justice Taney, delivering the judgment of the court, said, "The plaintiff claims that he has invented a new and useful improvement in the art of manufacturing bricks and tiles; and states his invention to consist in using fine anthracite coal, or coal dust, with clay, for the purpose of making brick or tile; and for that only, he claims a patent. And the only question presented by the record is, whether his description of the relative proportions of coal-dust and clay, as given in his specification, is, upon the face of it, too vague and uncertain to support a patent. The degree of certainty which the law requires is set forth in the Act of Congress. The specification must be in such full, clear and exact terms, as to enable any one skilled in the art to which it appertains, to compound and use it without making any experiments of his own. In patents for machines, the sufficiency of the description must, in general, be a question of fact to be determined by the jury. And this must also be the case in compositions of matter, where any of the ingredients mentioned in the specification do not always possess exactly the same properties in the same degree. But, when the specification of a new composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, undoubtedly it would be the duty of the court to declare the patent to be void. And the same rule would prevail where it was apparent that the proportions were stated ambiguously and vaguely. For, in such cases, it would be evident, on the face of the specification, that no one could use the invention without first ascertaining, by experiment, the exact proportion of the different ingredients required to produce the result intended to be obtained. And, if the specification before us was liable to either of these objections, the patent would be void, and the instruction given by the Circuit Court undoubtedly right. But we do not think this degree of vagueness and uncertainty exists. The patentee gives a certain proportion as a general rule; that is, three fourths of a bushel of coal-dust to one thousand bricks. It is true, he also states that clay which requires the most burning, will require the greatest proportion of coal-dust; and that some clay may require one eighth more than the proportions given, and some not more than half a bushel, instead of three fourths. The two last mentioned proportions may, however, be justly considered as exceptions to the rule he has stated; and as applicable to those cases only where the clay has some peculiarity, and differs in quality from that ordinarily employed in making bricks. Indeed, in most compositions of matter, some small difference in the proportions

give the best process, materials, and methods, known to the inventor, yet it is not necessary for the patentee to describe the mode of making every thing which he uses, or detail known processes, or explain the terms appropriate to the particular art, or science, or branch of industry to which his invention belongs.[1] The specification is, as we have seen, addressed to persons acquainted with the nature of the business; some technical knowledge is presumed on the part of those who will undertake, after the patent is expired, to carry out the invention; and such persons are to be called as witnesses to explain the language to the jury, while the patent is in force, and to show that it is capable of being understood by those to whom it is addressed. Accordingly, it has been said, that a specification containing scientific terms, which are not understood, except by persons acquainted with the nature of the business, is not bad because an ordinary person does not understand it, provided a scientific person does; but a specification using common language, and stating that by which a common man may be misled, though a

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must occasionally be required, since the ingredients proposed to be compounded, must sometimes be in some degree superior or inferior to those most commonly used. In this case, however, the general rule is given with entire exactness in its terms; and the notice of the variations, mentioned in the specification, would seem to be designed to guard the brick-maker against mistakes, into which he might fall if his clay was more or less hard to burn than the kind ordinarily employed in the manufacture. It may be, indeed, that the qualities of clay generally differ so widely, that the specification of proportions, stated in this case, is of no value; and that the improvement cannot be used with advantage in any case, or with any clay, without first ascertaining by experiment the proportion to be employed. If that be the case, then the invention is not patentable. Because, by the terms of the Act of Congress, the inventor is not entitled to a patent. But this does not appear to be the case on the face of this specification. And whether the fact is so or not, is a question to be decided by a jury, upon the evidence of persons skilled in the art to which the patent appertains. The Circuit Court, therefore, erred in instructing the jury, that the specification was too vague and uncertain to support the patent, and its judgment must be reversed."

[1] Per Lord Abinger, C. B., in Neilson *v.* Harford, Webs. Pat. Cas. 341. See also Derosne *v.* Fairie, Ibid. 154, 167.

scientific man would not, when it does not profess to use scientific terms, and an ordinary man is misled by it, would not be good.[1] And it has been held that, if a specification contain an untrue statement in a material circumstance, of such a nature that, if literally acted upon by a competent workman, it would mislead him, and cause the experiment to fail, the specification is therefore bad, and the patent invalidated, although the jury, on the trial of an action for the infringement of the patent, find that a competent workman, acquainted with the subject, would not be misled by the error, but would correct it in practice.[2]

§ 162. The specification need not describe that which is within the ordinary knowledge of any workman who would be employed to put up the apparatus; as, a condenser, in constructing a gas apparatus.[3] So, too, a deviation from the precise dimensions shown by the specification and model, so as to make different parts work together, is within the knowledge of any workman.[4] But if the practical application of

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1 Ibid.

2 Neilson *v.* Harford, 8 M. & W. 806; S. C. Webs. Pat. Cas. 328.

3 Crossley *v.* Beverley, Webs. Pat. Cas. 110, *note*.

4 Morgan *v.* Seaward, Webs. Pat. Cas. 176. In this case, Alderson, B., said to the jury, "In the case of the steam-engine, there was put in, on the part of the defendants, a model, made, as it was said, according to the specification, which model would not work. The model was a copy of the drawing, and would not work, because one part happened to be a little too small, whereas if it had been a little larger, it would have worked. Now, a workman of ordinary skill, when told to put two things together, so that they should move, would, of course, by the ordinary knowledge and skill he possesses, make them of sufficient size to move. There he would have to bring to his assistance his knowledge that the size of the parts is material to the working of the machine. That is within the ordinary knowledge of every workman. He says: 'I see this will not work, because it is too small,' and then he makes it a little larger, and finds it will work; what is required is, that the specification should be such as to enable a workman of ordinary skill to make the machine; with respect to that, therefore, I do not apprehend you will feel much difficulty."

the invention involves a particular kind of knowledge on the part of a workman, requiring him to do that which a person of ordinary engineering skill ought to know how to do, it must, at least, suggest to him that that thing is to be done, if it does not specifically point out the mode of doing it.[1] In like manner, it is not necessary, in the description of a machine, to state of what material every part should be made, where the principle of operation and the effect are the same, whether the parts be made of one material or another;[2] but, if a particular material be essential to the successful operation of the machine, as the patentee uses it, he must direct the use of that material.

§ 163. In the case of machinery, the statute directs the patentee to accompany his specification with "a drawing or drawings, and written references, where the nature of the case admits of drawings." The object of annexing drawings is, both to distinguish the thing patented from other things

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[1] In the case last cited, the same learned judge further instructed the jury as follows: "Mr. George Cottam says, 'It is a common problem to find a centre from three given points, and a person of ordinary engineering skill ought to be able to do that.' The question is, whether it ought not to be suggested to him by the specification, that that is the problem to be solved. Then Mr. Curtis says, 'I have made wheels on this plan.' You see he made the two wheels which were sent to the Venice and Trieste Company, but those were made under the direction of Mr. Galloway, the inventor. Now, it somewhat detracts from the weight due to his testimony, not as to his respectability, but as to the value of his evidence to you, that he had received the verbal instructions of Mr. Galloway. It may be that he could do it because of his practice under Mr. Galloway; and it must be recollected that people in other places would not have that advantage. He says, he would not have any difficulty in doing it; and he says, 'I should not consider my foreman a competent workman unless he were able to make the wheel from the specification and drawings.' He says, 'I could alter the angle by altering the cranks.' The question is not, whether he could do that, but whether he could alter the angle to a particular angle by altering the cranks in a particular way, that is, whether, having the angle given to him, he could make the alteration that was desired."

[2] Brooks *v.* Bicknell, 3 M'Lean's R. 250, 261.

known before, and to explain the mode of constructing the subject of the patent. It has been settled, that the drawings constitute a part of the specification, when annexed thereto, and may be used to explain or help out the otherwise imperfect description in the specification. So that it is not necessary that the description should be wholly in writing, but it may be partly in writing and partly in drawing; and if, by a comparison of the words and the drawings, the one will explain the other sufficiently to enable a skilful mechanic to perform the work, and to show what is the invention claimed, the specification will be sufficient.[1] And it has been held, that, in order to make a drawing, when annexed to or accompanying a specification, part of the specification, so that the written description may be read by it, it is not necessary that the written description should contain references to the drawing; that the direction in the statute, to annex "drawings and written references," means, that, where references from the writing to the drawing are necessary to the understanding of the machine or improvement, they are to be made; but that the description of many machines or improvements, when accompanied by a drawing, may be perfectly understood without references in the description itself.[2]

§ 164. It was formerly held in England, that the drawings annexed to specifications ought to be drawn on a scale; so that the relation and proportion of the parts to each other, and the dimensions of the different parts might appear in due ratio to each other.[3] But this rule has been modified; and it seems now to be considered, that, if a mechanic can make the subject of the patent from the drawing in perspective, it

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[1] Earle *v.* Sawyer, 4 Mas. 1, 9; Bloxam *v.* Elsee, 1 Car. & P. 558; Brunton *v.* Hawkes, 4 B. & Ald. 540.

[2] Brooks *v.* Bicknell, 3 M'Lean's R. 250, 261; Washburn *v.* Gould, 3 Story's R. 122, 133.

[3] The King *v.* Arkwright, Dav. Pat. Cas. 114.

is not necessary that there should be a scale.[1] Indeed, it is a necessary consequence of the rule which makes the written description open to explanation by the drawing, to hold that the drawing is open to explanation by the written description. So long as both together enable the public to know and practice the invention, it must be immaterial whether the drawing is made upon a scale or not. But if the subject of the patent could not be made without many experiments, unless the drawing is upon a scale, then undoubtedly the whole specification taken together, being the written description and the drawing, would be defective.

§ 165. It should not be forgotten, that the statute requires a formal attestation of the specification and drawings. They must be signed by the inventor and by two witnesses.[2] It has been suggested, that the signing of the specification referring to the drawings is in effect attesting the drawings.[3] But whether the statute is to be so construed as to require both the specification and the drawings to be signed, has not been decided.

§ 166. Provision is made by the thirteenth section of the Act of 1836, for the amendment of the specification, by the addition of new improvements made after the patent has issued. The description of any such new improvement may be filed in the Patent-Office, and is directed to be annexed by the commissioner to the original specification, with a certificate of the time of its being so annexed, and, thereafter, it is to have the same effect as if it had been embraced in the original specification.[4]

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[1] Godson on Patents, p. 137.

[2] Act of July 4, 1836, § 6, "which description and drawings, signed by the inventor and attested by two witnesses, shall be filed in the Patent-Office."

[3] Phillips on Patents, p. 302, 303.

[4] Act of 4th July, 1836, § 13.

§ 167. A still further provision is made for the amendment of a redundant specification, by the filing of a *Disclaimer*. The Act of 1837, ch. 45, § 7, provides that, "whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimers of such parts of the thing patented as the disclaimant shall not claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent, which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent-Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall thereafter be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured thereby, by the disclaimant, and by those claiming by or under him subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same."

§ 168. The 9th section of the same act provides as follows: "(Any thing in the fifteenth section of the act to which this is additional, to the contrary notwithstanding,) that, whenever, by mistake, accident, or inadvertence, and without any wilful default, or intent to defraud or mislead the public, any patentee shall have in his specification claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be deemed good and valid for so much of the invention or

discovery as shall be truly and *bonâ fide* his own: *Provided*, it shall be a material and substantial part of the thing patented, and be definitely distinguishable from the other parts so claimed without right, as aforesaid. And every such patentee, his executors, administrators, and assigns, whether of a whole or a sectional interest therein, shall be entitled to maintain a suit at law or in equity on such patent, for any infringement of such part of the invention or discovery as shall be *bonâ fide* his own, as aforesaid, notwithstanding the specification may embrace more than he shall have any legal right to claim. But, in every such case in which a judgment or verdict shall be rendered for the plaintiff, he shall not be entitled to recover costs against the defendant, unless he shall have entered at the Patent-Office, prior to the commencement of the suit, a disclaimer of all that part of the thing patented which was so claimed without right: *Provided, however*, that no person bringing any such suit, shall be entitled to the benefit of the provisions contained in this section, who shall have unreasonably neglected or delayed to enter at the Patent-Office a disclaimer as aforesaid."

§ 169. The disclaimer mentioned in the seventh section, has been held to apply solely to suits pending when the disclaimer was filed in the Patent-Office; and that mentioned in the ninth section, to suits brought after the disclaimer is so filed.[1]

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[1] Wyeth *v.* Stone, 1 Story's R. 273, 293. In this case, Mr. Justice Story thus expounded the statute: "We come, then, to the remaining point, whether, although under the Patent Act of 1793, ch. 55, the patent is absolutely void, because the claim includes an abstract principle, and is broader than the invention: or, whether that objection is cured by the disclaimer made by the patentee, (Wyeth,) under the act of 1837, ch. 45. The seventh section of that Act provides, 'That, whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification too broad, claiming more than that, of which he was the original or first inventor, some material and substantial part of the thing patented being truly or justly his own, any such patentee, his administrators, executors, or assigns, whether of

the whole or a sectional part thereof, may make disclaimer of such parts of the thing patented, as the disclaimant shall not claim to hold by virtue of the patent or assignment, &c., &c. And such disclaimer shall be thereafter taken and considered as a part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured thereby by the disclaimant, &c.' Then follows a proviso, that 'no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same.' The ninth section provides, 'That whenever, by mistake, accident, or inadvertence, and without any wilful default, or intent to defraud or mislead the public, any patentee shall have, in his specification, claimed to be the first and original inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case, the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bonâ fide his own;* provided it shall be a material and substantial part of the thing patented, and shall be definitely distinguishable from the other parts so claimed without right, as aforesaid.' Then follows a clause, that, in every such case, if the plaintiff recovers in any suit, he shall not be entitled to costs, 'unless he shall have entered at the Patent-Office, prior to the commencement of the suit, a disclaimer of all that part of the thing patented, which was so claimed without right:' with a proviso, 'That no person bringing any such suit shall be entitled to the benefits of the provisions contained in this section, who shall have unreasonably neglected or delayed to enter at the Patent-Office a disclaimer as aforesaid.'

"Now, it seems to me, that, upon the true construction of this statute, the disclaimer mentioned in the seventh section must be interpreted to apply solely to suits pending, when the disclaimer is filed in the Patent-Office; and the disclaimer mentioned in the ninth section to apply solely to suits brought after the disclaimer is so filed. In this way, the provisions harmonize with each other; upon any other construction they would seem, to some extent, to clash with each other, so far as the legal effect and operation of the disclaimer is concerned.

"In the present case, the suit was brought on the first of January, 1840, and the disclaimer was not filed until the twenty-fourth of October, of the same year. The proviso, then, of the seventh section, would seem to prevent the disclaimer from affecting the present suit in any manner whatsoever. The disclaimer, for another reason, is also utterly without effect in the present case; for it is not a joint disclaimer by the patentee and his assignee, Tudor, who are both plaintiffs in this suit; but by Wyeth alone. The disclaimer cannot, therefore, operate in favor of Tudor, without his having joined in it, in any suit, either at law, or in equity. The case, then, must stand upon the other clauses of the ninth section, independent of the disclaimer.

"This leads me to say, that I cannot but consider, that the claim made in the patent for the abstract principle or art of cutting ice, by means of an apparatus worked by any other power than human, is a claim founded in inadvertence and mistake of the law, and without any wilful default or intent to defraud or mislead the public, within the proviso of the ninth section. That section, it appears to me, was intended to cover inadvertences and mistakes of the law, as well as inadvertences and mistakes of fact; and, therefore, without any disclaimer, the plaintiffs might avail themselves of this part of the section, to the extent of maintaining the present suit for the other parts of the invention claimed, that is, for the saw and for the cutter, and thereby protect themselves against any violation of their rights, unless there has been an unreasonable neglect or delay to file the disclaimer in the office. Still, however, it does not seem to me, that a court of equity ought to interfere, to grant a perpetual injunction in a case of this sort, whatever might be the right and remedy at law, unless a disclaimer has been in fact filed at the Patent-Office before the suit is brought. The granting of such an injunction is a matter resting in the sound discretion of the Court; and if the Court should grant a perpetual injunction before any disclaimer is filed, it may be, that the patentee may never afterwards, within a reasonable time, file any disclaimer, although the Act certainly contemplates the neglect or delay to do so, to be a good defence both at law and in equity, in every suit, brought upon the patent, to secure the rights granted thereby. However, it is not indispensable in this case to dispose of this point, or of the question of unreasonable neglect or delay, as there is another objection, which, in my judgment, is fatal, in every view, to the maintenance of the suit in its present form."

NOTE. — The following synopsis of the leading English cases on the subject of specifications may be found convenient to the reader, although they are cited in the foregoing chapter. The references are to the pages of Webster's Patent Cases; but the same cases may be found in other reports, by reference to the Index of Cases prefixed to this work.

The object of the specification is, that, after the term has expired, the public shall have the benefit of the invention. *Arkwright* v. *Nightingale*, Webster's Pat. Cas. 61.

The meaning of the specification is, that others may be taught to do that for which the patent is granted, and, if any material part of the process be omitted, the specification is bad. *Liardet* v. *Johnson*, 53.

As, the omitting to state the use of tallow, which the patentee employed for facilitating the manufacture of steel trusses. *Ibid.*

Or, the omitting to state the use of a material, *aquafortis*, which the patentee used for obtaining the effect more rapidly. *Wood* v. *Zimmer*, 82.

Or, if the patentee employ cheaper articles than those specified. *Turner* v. *Winter*, 81.

It is required, as the price of the monopoly, that the patentee should enrol, to the very best of his knowledge and judgment, the fullest and most sufficient description of the particulars on which the effect depended, that he was enabled to do.

Liardet v. *Johnson*, 54.

The most advantageous mode known to the inventor, and any circumstance conducive to the advantageous operation, must be stated.

Morgan v. *Seaward*, 175, 182.

The specification is intended to teach the public; it must fully disclose the secret, and contain nothing materially false or defective.

R. v. *Arkwright*, 66.

The specification must give the best mode known to the inventor, and must not mislead.

Walton v. *Bateman*, 622.

The specification ought to be so clearly worded, as to enable any person of sufficient understanding on the particular subject, to attain the result, without doubt or difficulty; it being the price paid by the inventor for keeping the public out of the manufacture.

Gibson v. *Brand*, 629.

Some knowledge is requisite in the person reading the specification, which is addressed to artists of competent skill in the particular manufacture. *Bickford* v. *Skewes*, 219.

The specification is addressed to persons of skill in the subject-matter and particular trade. *Arkwright* v. *Nightingale*, 61; *Elliott* v. *Aston*, 224.

The specification must be sufficient for persons skilled in the subject.

Huddart v. *Grimshaw*, 87.

The general test of sufficiency of the specification, for mechanics or persons acquainted with the subject, limited by the condition, that they should be able to make the machine, by following the directions of the specification, without any new inventions or additions of their own.

R. v. *Arkwright*, 66.

Any material alteration to be made in existing apparatus or machines, must be stated. *Ibid.* 67.

As, with reference to the materials employed, or their form, or the speed of the parts, or their relative dimensions. *Ibid.*

The representation and description of parts of no use, or without distinguishing to what purposes they are to be applied, or for the purpose of puzzling, will render the patent void, the specification not affording that fair, full, and true discovery, which the public have a right to demand in return for the monopoly. *Ibid.* 69.

If that which is shown will not do of itself, but requires something to be added, the specification is bad.

Ibid. 70.

If different parts are to move with different velocities, that must be stated. *Ibid.*

If more parts be inserted than are necessary, as ten, where four are sufficient, the specification is void.

Ibid.

Information must not be requisite from other sources. *Ibid.*

As, where a workman has learned to make the machine from seeing others make it. *Ibid.*

The specification must be such as can be followed by a person possessing the ordinary knowledge common to the trade, without invention or addition, or setting himself to solve a problem. *Morgan* v. *Seaward*, 174.

Information acquired from other sources than the specification, is to be excluded; but reasonable data must be given. *Ibid.* 179.

All extreme or exaggerated cases must be discarded, and the substance of the thing looked to.

Ibid. 180.

It is not sufficient that a skilful person should be able to find it out; the invention must be effected by the directions contained in the specification. *Ibid.* 185.

The specification cannot be supported by the fresh invention and correction of a scientific person. To be valid, it must be such as, when fairly followed out by a competent workman, without invention or addition, the object of the patent may be obtained. *Neilson* v. *Harford*, 371.

By competent skill and knowledge,

are meant ordinary skill and knowledge, such as that possessed by practical workmen; not the degree of skill which would enable a person, on a mere hint, to invent a machine for the purpose. *Ibid.* 314.

The specification, being for the benefit of the trade, must be sufficient for workmen competent to the ordinary business of that trade; first-rate engineers and common laborers must be excluded.

The Household Co. v. *Neilson*, 692.

The compositions and proportions, where materials and quantity are of the essence of the invention, must be given. *Liardet* v. *Johnson*, 54, n.

As, in the case of a medicine or paint. *Ibid.*

A specification which merely suggests something, so as to throw on the public the trouble of experiment, is bad. *Morgan* v. *Seaward*, 175.

A deviation from the precise dimensions shown, so as to make different parts work together, is within the knowledge of any workman.

Ibid. 176.

The omission to give directions, as to matters within the knowledge of a workman, who would, under ordinary circumstances, be employed to carry out the invention, is no ground of invalidity.

Crossley v. *Beverley*, 110, n. *n.*

The omission to mention in the specification any thing which the patentee knows to be necessary for the beneficial enjoyment of his invention, is a fatal defect.

Neilson v. *Harford*, 317, 321.

But the omission to mention something which contributes only to the degree of the benefit, provided the apparatus described would work beneficially and be worth adopting, is not a fatal defect. *Ibid.* 317.

The omission to mention the use of water twyres will not invalidate the specification, it appearing that a beneficial effect could be produced without such apparatus, and that any person acquainted with smelting, knows that, if the heat is increased, recourse must be had to some method of guarding the pipe, and that the water twyre was well known as one mode for that purpose *Ibid.* 318.

If the apparatus described can be used beneficially in its simplest form, it is no objection that great improvements may have been made.

Ibid. 317.

Not necessary that the apparatus described should produce the greatest amount of benefit.

The Household Co. v. *Neilson*, 695.

It is sufficient, if persons acquainted with heating air, would construct an apparatus productive of some benefit.

Ibid. 694.

If experiments are necessary for the production of any beneficial effects, the patent is void.

Neilson v. *Harford*, 320.

As, if a particular temperature be essential and not stated. *Ibid.* 318.

The specification need not describe that which is within the knowledge of any workman who would be employed to put up the apparatus.

Crossley v. *Beverley*, 110, n. *n.*

As, a condenser, in constructing a gas apparatus. *Ibid.*

A patentee is bound to insert in his specification the most improved means of carrying out his invention, with which he is acquainted at the time of the enrolment of the specification. *Ibid.* 116.

As, the different mechanical contrivances for carrying out the principle in respect of which he applied for his patent. *Ibid.*

If it were otherwise, and if such contrivances must be the subject of fresh letters-patent, the monopoly would be prolonged. *Ibid.*

Time is allowed for the specification, in order that the invention may be brought to its greatest state of perfection. *Ibid.* 117.

All improvements made during the interval for enrolling the specification should be described. *Ibid.*

The insertion or representation of any thing as important, not being so in fact, will vitiate the specification.

Huddart v. *Grimshaw*, 93.

Letters-patent are void if the spe-

cification be ambiguous, or give directions which tend to mislead the public. *Turner* v. *Winter*, 77.

As, where a generic term, "fossil salt," is employed, but one species only, "sal gem," will succeed.

Ibid. 80.

Or, where one of several articles named will not succeed. *Ibid.* 81.

Where the specification directed the use of a subject, bituminous schistus, saying, the carbonization has nothing particular, only it is convenient, before carbonization, to separate the sulphates of iron which are mixed with it, and it appeared that all bituminous schistus had such sulphates, and that no easy means were generally known of removing them, and that, without their removal, the schistus could not be efficaciously used; the specification held insufficient. *Derosne* v. *Fairie*, 157.

If a substance, as generally known, contain foreign matter, the presence of which is positively injurious, the plaintiff must show that a method of easily removing such foreign matter is known. *Ibid.* 162.

Aliter, if such foreign matter interfere to a limited extent only with the degree of benefit. *Ibid.* 159.

The substance named must answer the purpose proposed beneficially.

Ibid. 163, 164.

A specification must state at least one method which will succeed.

Ibid. 165.

All the substances which will answer the purpose of the invention need not be stated, only the public must not be misled.

Bickford v. *Skewes*, 218.

But, if a whole class of substances be stated as suitable, and any one of them will not answer, the specification is bad, as misleading the public.

Ibid. 218.

The plainest and most easy way of production must be stated, and, if obscure terms be employed for the sake of concealment, so as to induce the belief that elaborate processes are necessary when the simplest will succeed, the specification is bad.

Savory v. *Price*, 83.

If a patentee states that he prefers a certain material, having ascertained that no other would answer, he misleads the public.

Crompton v. *Ibbotson*, 83.

If an article be described by a particular name, the patentee knowing that the requisite article cannot be ordinarily procured under the name by which it is described in the specification, and it be not stated where it may be procured, the public have not that full and precise information which they have a right to require.

Sturtz v. *De La Rue*, 83.

A studied or manifest ambiguity will vitiate.

Galloway v. *Bleaden*, 524.

It is no objection, *primâ facie*, to a specification, that it contains terms of art requiring explanation.

Derosne v. *Fairie*, 157.

A specification containing scientific terms, which are not understood except by persons acquainted with the nature of the business, is not bad, because an ordinary person does not understand it, provided a scientific person does; but a specification using common language, and stating that by which a common man may be misled, though a scientific man would not, when it does not profess to use scientific terms and an ordinary man is misled by it, would not be good.

Neilson v. *Harford*, 341.

If the invention be an improvement, it must distinctly appear on the face of the specification as such, and not as an original discovery.

Hill v. *Thompson*, 247.

The specification must inform the public what is new and what old.

McFarland v. *Price*, 74.

A person is to be warned by the specification against the use of the particular invention. *Ibid.*

A specification describing a machine as a whole is sufficient, though the invention be an improvement on a former patent.

Harman v. *Playne*, 75.

The specification is to warn the public of what is prohibited, and to teach them the invention.

Morgan v. *Seaward*, 173.

The specification must distinguish between what is new and old; if not, the presumption is, that the patent extends to the whole and to each part. *Carpenter* v. *Smith*, 532.

A mistake in a specification does not, of necessity, vitiate letters-patent; as, where air was called an imponderable substance, or sulphur a mineral. *Neilson* v. *Harford*, 340.

Semble, that a mistake in respect of a matter foreign to the invention, and which cannot mislead, will not vitiate the specification. *Ibid.* 353.

The inaccurate use of words, if explained by the context, will not vitate a specification. *Ibid.* 369.

Semble, that the evidence of a person of ordinary skill cannot be allowed, to contradict or correct the plain grammatical sense of one part of the specification. *Ibid.* 329.

The sufficiency of the specification in matters of description, is a question for the jury.

Walton v. *Potter*, 595.

In the absence of evidence on the part of the defendants, that persons have been misled by the specification, it is sufficient for the plaintiff to call persons who say, that to them it is clear. *Cornish* v. *Keene*, 502.

The attention of the plaintiff must be fully and clearly directed to the objection to the specification.

Bickford v. *Skewes*, 219.

The finding of the jury on an objection as to the distinctness of the specification, is conclusive.

Ibid. 220.

NOTE. — I borrow from Mr. Godson's excellent work the following summary of the defects common in specifications, as they are treated in the English law. The specification is bad, when

1. The terms are *ambiguous*.
2. Necessary *descriptions are omitted*.
3. Parts claimed are *not original*.
4. Things are put in to *mislead*.
5. The *drawings* are incorrect.
6. *One of different ways*, or different ingredients named, fails.
7. *One of several effects specified* is not produced.
8. The things described are *not the best known* to the patentee.

If the *terms* in which the description of the subject is expressed be *ambiguous*, if the words are used in any other sense than that in which they are generally understood, the invention may be wholly or partially concealed; and, therefore, on that account, the grant would be invalid.

Taking the title, patent and specification of *Campion's* letters-patent[1] together, it was very difficult to say whether the word "whatever" referred to the total exclusion of starch, or whether when combined with the words "without any starch," it was merely a description of the thread of the sail-cloth which had been improved. For that ambiguity the patent was declared to be void.

It is mentioned in *Turner's* specification,[2] "take any quantity of lead, and

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[1] Campion *v.* Benyon, 3 B. & B. 5.

[2] Turner *v.* Winter, 1 T. R. 602.

calcine it; or minium or red lead," whence it was inferred that the lead only was to be calcined, and a doubt arose whether the minium or the red lead was to be calcined. Such an objection, if the only one, would probably not invalidate a grant, though a similar ambiguity is carefully to be guarded against. In that case, however, calcination would not produce the effect; fusion was necessary.

It was objected to the same patent, that the substance intended to be produced, and *called* white lead, could only be applied to a few of the purposes of white lead. The answer that it was not intended to make white lead was not sufficient. In the specification, the inventor should have stated that the effect produced a substance *similar* to white lead, and then have set forth the useful purposes to which this new substance might be converted; and ought not to have misapplied the *term* white lead.

There was also another word in that specification which was not intelligible. It was directed that *fossil* salt should be used. Now, fossil salt is a genus having many species, and only one of the latter, *sal gem*, would answer the intended purpose. For those reasons the patent was declared to be void.

If a term have a *technical* meaning, or one differing in the usage of trade from the ordinary sense annexed to it, the word may be received in its perverted sense; and if the manufacture be otherwise intelligibly described, a mere verbal inaccuracy will not vitiate the patent;[1] but, if a word be not used in its common acceptation, then it should be explained. Thus, in *Wheeler's* specification,[2] it appeared, that by the word "malt," the patentee meant barley fully prepared for making beer; but that the word "malt," in its common acceptation, is applied to the grain as soon as it has germinated by the effect of moisture, and before it has been dried; and it was held that he ought to have explained his meaning.

In another case,[3] one of the ingredients was a white substance imported from Germany, and which could be purchased at one or two color shops in London.

The only description or denomination given to it in the specification was, "The purest and finest chemical white lead;" but there was no article known by that denomination in the trade, or in the shops where white lead is usually sold, and the finest white lead that could be obtained would not answer the purpose. The specification was held to be insufficient.

If, in a manufacture, something well known be used, and the inventor give a design of it, which appears to be of a different thing, though he means that the thing known should be used, the specification is in terms ambigu-

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[1] 2 Hen. Bla. 485.

[2] King *v.* Wheeler, 2 Barn. & Ald. 349.

[3] Sturz *v.* De La Rue and others, 5 Russell's Rep. 322.

ous; and it will be considered as being worded with an endeavor to conceal the invention and deceive the public. Thus, Mr. Arkwright, although he used the old spiral cylinder in his machine, so managed the drawing and description, that, on the face of the specification, it appeared that he intended to use a parallel cylinder.[1]

The several distinct parts of the subject of a patent may be divided into the *new* and the *old*. In a specification, all that is new must of course be clearly elucidated. The old parts may be distinguished as they are *material* and *immaterial* in producing the desired effect. Any particular thing, although in common use, when it is applied in a new manner to the production of a new effect, is material, and becomes a part of the substance of the invention, and must be described. And if it is not mentioned, and its use pointed out, the description will be defective. It is only the *well-known and immaterial* old parts that need not be described.[2]

A material alteration, from rollers in general, had been made in the rollers of Arkwright's machine, of which no description was given, and it was considered as wilfully concealed.[3] Mr. Arkwright's machine was intended to prepare for spinning, not only cotton, but silk, flax, and wool; yet he described all the parts of it as one entire instrument. He did not state, as he should have done, that the hammer in the front of it was *only* to be used in preparing flax.[4] Other parts which were put on or off as occasion required, appeared as though they were fixed, and to be used in every stage of manufacturing each of the articles.[5] Those omissions in the description were considered of sufficient importance to invalidate the patent.

Every part of the invention which is new must be accurately described, as to the manner in which it is to operate. In the case of *Felton* v. *Greaves*,[6] the patent was granted for a machine for an expeditious and correct mode of giving a fine edge to knives, razors, *scissors*, and other cutting instruments. The machine described in the specification consisted of two circular rollers of steel made *rough*, like files, and the instrument to be sharpened was passed backward and forward in an angle formed by their intersection. It appeared in evidence that if the machine was intended to give a fine edge to *scissors*, that the one roller should be smooth.

In the specification it was also stated that *other materials* besides steel *might* be employed, and it appeared that if Turkey stones, instead of steel, were used for both the rollers, it was possible to succeed with scissors. The Lord Chief Justice observed: "The specification describes both the rollers

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[1] Printed Case, 175; Dav. Pat. Cas. 113. Gods. on Pat. 54.
[2] Hill *v.* Thompson, 2 B. Moore, 450, 455, &c.
[3] Printed Case, 173; Dav. Pat. Cas. 107.
[4] King *v.* Arkwright, Printed Case, 175; Dav. Pat. Cas. 117.
[5] King *v.* Arkwright, Printed Case, 173; Dav. Pat. Cas. 109.
[6] 3 Car. & Payne's Rep. 611.

as files. It is not stated either that the rollers must be one rough and the other smooth, or that Turkey stones must be substituted for the files, when it is intended to sharpen the edges of scissors. The specification is insufficient."

There are persons who imagine that if they introduce the words "and for other useful purposes," into the title of the patent, that the title must be good; and that if they insert the words "other materials may be used," or, "any other substance from which the thing can be obtained," into the description, that it is impossible to find fault with the specification. There is not a greater error. In the last case it appeared that the words "other materials," did not assist the description, or save the specification.

In addition to the old authorities, another case [1] has been decided, by which it appears that the words "any other substance" had been nearly fatal to an important patent. In the introductory part of the specification, Clegg, the original patentee, used these words: "My improved gas-apparatus is for the purpose of extracting inflammable gas by heat from pit-coals, tar, *or any other substance* from which gas or gases, capable of being employed for illumination, can be extracted by heat;" and then he went on to mention the other inventions. In the description of the retort, he called it "a horizontal flat retort, in which coal, or other materials capable of producing inflammable gas, are heated, and the gas extracted by distillation; and in the course of it he spoke of the "coal or other substance" being "spread in a thin layer." Throughout the description of the retort, and the explanation of the drawings, he always spoke of "coal," or "coal or coke," or "coal or other substance" only.

It appeared that the retort was incapable of obtaining gas, except very imperfectly, or by considerable modifications, *from oil*. The date of the patent was December 9, 1815, that of the specification, June 8, 1816. At these periods it was known, as a philosophical fact, that gas was producible from oil; but it had not been proposed to manufacture such gas for purposes of illumination. Some speculations, indeed, were then going on, and a patent was obtained about the same time for making it; and the manufacture was subsequently brought into use, though not very generally.

The counsel for the defendant submitted that the unfitness of the retort for making gas from oil was fatal to the patent, and contended that it was the duty of the patentee not to overstate the limits within which his invention would be useful, that no person may be led to unavailing expense in trying it upon purposes for which it is unfit.

Lord Tenterden said: "I must look at the whole of the specification together; and, doing so, I think it is evident that it only represents the retort as suited to materials of the same kind as coal. I am of opinion, also, that I ought to understand the "other substances" mentioned, to signify *substances*

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[1] Crossley *v.* Beverley, 1 Mood. & Malk, 283; and see 3 Car. & Payne, 513.

then known to be available for the purpose of illuminating with gas, not every thing which will burn with a flame; for all these, in a certain sense, will produce gas. It is clear, on the evidence, that oil was not then generally considered as such a substance; and the fact that some speculations were going on at the time, with respect to its being so, will make no difference. The patentee cannot be required to foresee the success of these speculations, if they have succeeded; but I must consider him, as a practical man, to have spoken of things which practical men then treated as usable for the purpose specified.

On both grounds, therefore, I must decide against the objection. The law is severe enough, in breaking up patents altogether for a fault in any part of them, without straining it, in favor of such an objection.

This position of law was further illustrated in the case of *Crompton* v. *Ibbotson*.[1] The patent was for an improved method of drying and finishing paper. The specification contained these words: "the invention consists in conducting paper, by means of a cloth, or cloths, against a heated cylinder: which cloth may be made *of any suitable material*, but *I prefer* it to be made of linen warp and woollen weft; which cloth is shown in the drawing by blue lines."

It appeared by the evidence of the plaintiff's witness, that, as to the conducting medium, he had tried several things, but he was not aware of any thing that would answer the purpose, except the material which the patentee said he preferred. Whereupon Mr. Justice Bayley directed a nonsuit. A motion was made to set aside that nonsuit. It was refused, and Lord Tenterden said, the patent was obtained for the discovery of a proper conducting medium. The plaintiff found, after repeated trials, that nothing would serve the purpose except the cloth described in the specification; yet he says the cloth may be made "of any suitable material," and merely that he prefers the particular kind there mentioned. Other persons, misled by the terms of this specification, may be induced to make experiments which the patentee knows might fail, and the public has not the full and entire benefit of the invention; the only ground on which the patent is obtained. But this rule must not be extended to the rudiments of a science, nor to the mere incidents of a subject. If gold were directed to be used in a state of fusion, the manner and *utensils* for putting it in that state need not be mentioned.[2]

That the new parts of the subject may be more clearly seen and easily known, the patentee must not only claim neither more nor less than his own invention, but he must *not appear*, even unintentionally, to appropriate to himself any part which is old, or has been used in other manufactures.[3] Those

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[1] Danson and Lloyd's Rep. 33.

[2] Turner v. Winter, 1 T. R. 602. Gods. on Pat. 120.

[3] Huddart v. Grimshaw, Dav. Pat. Cas. 295. Ellenborough, C. J.: "As to the

parts that are old and immaterial, or are not of the essence of the invention, should either not be mentioned, or should be named only to be designated as old. The patentee is not required to say that a screw or a bobbin, or any thing in common use is not part of his discovery; yet he must not adopt the invention of another person, however insignificant it may appear to be, without a remark. If any parts are described as essential, without a protest against any novelty being attached to them, it will seem, though they are old, that they are claimed as new.[1] The construction will be against the patentee, that he seeks to monopolize more than he has invented, or that, by dwelling, in his description, on things that are immaterial or known, he endeavors to deceive the public, who are not to be deterred from using any thing that is old, by its appearing in the specification as newly invented. They are to be warned against infringing on the rights of the patentee, but are not to be deprived of a manufacture which they before possessed.[2] It seems,

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bobbins, they are not worth mentioning; the springs and tubes are the things in which it should seem the principal originality of the invention consists. It is contended that the springs are not an essential part of the invention; if they are enrolled as an essential part, whether they are so or not, it would certainly go to destroy this patent, because no deceptive things are to be held out to the public; those that are material are to be held out as material; according to the evidence of Mr. Rennie, they are material. It appears to me that the springs in Belfour and Huddart's machine both produce the same end, to regulate the tension. Now, if it is a spring to regulate the tension of the yarn, which is essential to be regulated, it does seem to me, but it is for your judgment to say, whether it is a material part of the invention, and relied upon as such, as it should seem it is by both; and, if it is the same, then that which has been communicated by Mr. Belfour, Mr. Huddart cannot take the benefit of.

It is for you to say, for that is the substance of the case, as to the invention of the patent, *whether any essential part of it was disclosed to the public before.* If you think the same effect in substance is produced, and that the springs in Mr. Belfour's, by producing tension, obtains a material end in the making of ropes in this way proposed, and that it is, in substance, the same as in the other, this patent certainly must, upon principles of law, fall to the ground. If you think it is not the same, or if you think it is not material, though we have had the evidence of Mr. Rennie upon its materiality; if you think this patent has been for a new invention, carried into effect by methods new and not too large beyond the actual invention of the party, in that case the patent may be sustained. But, if you think otherwise, in point of law or expediency, the patent cannot be sustained."

The verdict was for the plaintiff, with nominal damages; but it is evidently at variance with the opinion of Lord Ellenborough.

[1] Boville *v.* Moore, Dav. Pat. Cas. 404; and see Manton *v.* Parker, Dav. Pat. Cas. 329.

[2] Dav. Pat. Cas. 279, and 3 Meriv. 629.

therefore, to be the safest way in the specification to describe the whole subject, and then to point out all the parts which are old and well known.

In the case of *Campion* v. *Benyon*,[1] it appeared that the patent was taken out "for an improved method of making sail-cloth, without any starch *whatever*." The improvement or discovery consisted in a new mode of texture, and not in the exclusion of starch; and the advantage of excluding that substance had been discovered and made public before that time. The Court held that the patent was void, as claiming, in addition to what the patentee had discovered, the invention of something already made public. Mr. Justice Park observed: "In the patentee's process, he tells us that the necessity of using starch is superseded, and mildew thereby entirely prevented; but, if he meant to claim as his own, an improved method of texture or twisting the thread to be applied to the making of unstarched cloth, he might have guarded himself against ambiguity *by disclaiming*, as his own discovery, the advantage of excluding starch."

Upon the same principles of reasoning, but certainly with much more force, if there be several things specified that may be produced, and *one* of them is *not new*, the whole patent is void. This point underwent a very full discussion in the case of *Brunton* v. *Hawkes*.[2]

If things useless and unnecessary have been mixed with a substance, or attached to a machine, though the *terms* are intelligible, and every necessary description has been introduced, and the *parts claimed* are only those which have been newly invented, the patent is void. Of this nature are those parts that have *never been used* by the patentee. It is from that circumstance inferred, that they have been introduced to overload the subject, and, by clouding the description, to mislead the public, and conceal the real invention. Thus, in Arkwright's machine, the introduction of several things,[3] which were never used by him, was considered as done merely to mislead the public.

If any considerable part of a manufacture be *unnecessary* to produce the desired effect, it will be presumed that it was inserted only with a view to perplex and embarrass the inquirer. In the specification to Turner's patent[4] for producing a yellow color, among other things, minium is directed to be used, which, it appeared, would not produce the desired effect. In the same case, among a great number of salts which were specified, it was left to the public to use those they pleased, without either of them in particular being pointed out, and only one would answer the intended purpose. For either of these reasons, the validity of a patent could be impeached.

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[1] 3 B. & B. 5.

[2] 4 Barn. & Ald. 550.

[3] Godson on Pat. p. 26, n.; and see Printed Case, 182, 186, 187; and see Dav. Pat. Cas. 129, 139, 140; also Hill *v.* Thompson, 2 B. Moore, 450.

[4] Turner *v.* Winter, 1 T. R. 602; Godson on Pat. 120.

This rule, that, if any considerable part of the things described in the specification be unnecessary, it will be presumed that it was inserted only with a view to perplex and embarrass the inquirer, was confirmed by the case of *Savory* v. *Price*.[1]

That patent had been granted for a method of making a neutral salt or powder, possessing all the properties of the medical spring at Seidlitz, under the name of "Seidlitz Powder." The specification enrolled within the time required by the patent, *set out three distinct receipts*, and described the modes and proportions in which the results were to be mixed, in order to produce the "Seidlitz Powder." It was proved that the three products so mixed answered the purpose professed in the patent, and that *the combination was new* and useful. But, upon cross-examination of the plaintiff's witnesses, the following facts were established. The recipe No. 1, produced the substance called "Rochelle Salts." Rochelle salts were known to the world before 1815 under that name, and also as Soda Tartarizata.

Recipe No. 2, produced "Carbonate of Soda," which was known before 1815, and was in the Pharmacopœia of 1809; and a more expensive, but more perfect way of making it was also known, and it might be bought in shops.

The recipe No. 3, produced "Tartaric Acid," the method of making which was known at the time of the patent, and, under that or some other name, it might be bought in chemists' shops; and other methods of making it were known, all of which would be equally efficacious for the combination of Seidlitz Powders. Rochelle salts, carbonate of soda, and tartaric acid, *mixed in the manner prescribed*, produced the Seidlitz Powders.

The Chief Justice said: "It is the duty of any one, to whom a patent is granted, to point out in his specification the plainest and most easy way of producing that for which he claims a monopoly; and to make the public acquainted with the mode which he himself adopts. If a person, on reading the specification, would be led to suppose a laborious process necessary to the production of any one of the ingredients, when, in fact, he might go to a chemist's shop and buy the same thing as a separate simple part of the compound, the public are misled. If the results of the recipes, or of any one of them, may be bought in shops, this specification, tending to make people believe an elaborate process essential to the invention, cannot be supported."

Although the unnecessary part had *occasionally* been used, it would still be a question whether it had not been put there to mislead the public. But this rule is not so strictly enforced that a person is compelled to *go on using* every part of his invention, to secure and continue his patent-right. If any particular parts have been once fairly introduced, and not laid aside, until, by

[1] Ryan & Moody, 1.

some discovery or contrivance, made subsequent to the date of the patent, they were found to be unnecessary, the patentee may, without prejudice, leave them out; or cease to make use of them. But the presumption is against the inventor, until he give a good reason for the discontinuance.[1]

Watts, in his specification, gave a description of several things, which, being incomplete, would not have supported a patent; and yet, inasmuch as he did not claim them as part of the subject of his patent, it was considered that they were *matters of intention only*, and that the specification was not rendered less intelligible by the introduction of them.[2]

It is not absolutely necessary to annex to the specification a model, diagram, picture, or drawing, descriptive of the manufacture.[3] If without it, the subject is clearly described, it is better omitted. It is, however, an easy way of illustrating the parts of a machine, and, therefore, has generally been adopted. It was formerly said, that, in every instance in which a drawing was introduced, it was indispensable that it should be drawn on a *scale*, &c.;[4] that, in it, the diameters of wheels, the length of levers, &c., every proportion and relation of the parts, ought to appear in due ratio to each other; and that the whole should be capable of being put together without leaving the length, breadth, or relative velocity, of any of the parts to be found out by conjecture and experiments, or the patent would be void. Arkwright's machine,[5] though shown in a perspective drawing, could not be made, for want of a scale to determine its dimensions.

This rule has of late been modified. If a common mechanic can make the subject of the patent from the drawing in perspective, it is not necessary that there should be a scale. It was also formerly considered that the words of the specification ought, of themselves, to be sufficiently descriptive of the improvement; that the specification ought to contain within itself all the necessary information, without the necessity of having recourse to a diagram, and that, if a diagram were given, it ought to be taken merely as an illustration, and not as constituting a principal or essential part of the specification; and, therefore, that a person was not bound to look at the diagram to learn the invention. But a very learned judge has, however, held, that, if a drawing or figure enable a workman of ordinary skill to construct the improvement, it is as good as any written description.[6]

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[1] Boville *v.* Moore, Dav. Pat. Cas. 398.

[2] Boulton *v.* Bull, 2 Hen. Bla. 480; Dav. Pat. Cas. 187, 188.

[3] 2 Hen. Bla. 479; Dav. Pat. Cas. 187; and see Ex parte Fox, 1 Ves. & Beam. 67.

[4] Harmer *v.* Playne, 11 East. 112; 14 Ves. 130, S. C.

[5] King *v.* Arkwright, Printed Cas. 176. Dav. Pat. Cas. 114.

[6] Brunton *v.* Hawkes, 37 Vol. Rep. of Arts, N. S. p. 105; and see S. C. 4 Barn. & Ald. 541; 1 Stark. N. P. C. 201, and *Post*.

On the trial at nisi prius, it was objected, in the case of *Bloxam v. Elsee*,[1] that the specification was bad, because there were several words in it not in English; such as *vice depression*, *vice repulsion*, and *vice de re-action*, for different screws; and the French word *chapitre*, for a cap, also occurred. It was, however, proved, that, from the drawings annexed to this specification, a skilful mechanic might make the machine; but it was contended that, as a specification could not be made by drawings alone, it must be made in apt words, intelligible to mechanics; and, if this specification were held good, every thing mentioned in a specification might be called by a wrong name, and drawings referred to for the whole. Even the scale appended to the drawings was a scale of *pieds* and *pouces*, terms unknown to English mechanics.

The Lord Chief Justice observed:—"It was proved that the names to the scale were quite immaterial; for relative proportion, which was all that was wanted, the scale would have been good as if there had been no names at all. An inventor of a machine is not tied down to make such a specification as, by words only, would enable a skilful mechanic to make the machine, but he is to be allowed to call in aid the drawings which he annexes to the specification; and if, by a comparison of the words and the drawings, the one would explain the other sufficiently to enable a skilful mechanic to perform the work, such a specification is sufficient."

The consequences which attend the introduction of any thing into the specification, merely to misguide the public, have been mentioned. The means must be adapted to the end.[2] The description must not give *several ways* and methods which may or may not answer, according to the skill exercised in the attempt to produce the manufacture. Thus, in the specification of Winter's patent,[3] a great number of salts were mentioned, by which it appeared that the public might take either of them, to make the subjects of the patent. There was only one of them that would produce the effect, and, therefore, his patent was void. Even if there be only one thing which will not answer the intended purpose, the specification is incorrect.

In *Derosne* v. *Fairie*,[4] the specification stated a method of depriving syrups, of every description, of color, by filtering them through charcoal, produced by the distillation of bituminous schistus, and used alone or mixed with animal charcoal, or even through animal charcoal alone, when placed in thick beds. It appeared that iron was combined with a *bituminous*

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[1] 1 Car. & P. 558.

[2] Dav. Pat. Cas. 331. And see Manton *v.* Parker, Dav. Pat. Cas. 328; 2 B. Moore, 457, 458.

[3] Turner *v.* Winter, 1 T. R. 602.

[4] Derosne *v.* Fairie and others, 5 Tyr. Rep. 393.

schistus, found in this country, and it was doubtful whether the charcoal distilled from the schistus was not only disadvantageous but injurious to the matter going through the process. The charcoal sworn to have answered the purpose of the patent, was received from Derosne, at Paris, where it had been made, and was declared by him to be the residuum of bituminous schistus, from which the iron had been extracted. But no means existed of ascertaining, in this country, of what substance it actually was the residuum, nor did the specification mention any process for extracting the iron from bituminous schistus. The Court held, that, whether the latter omission avoided the patent or not, the patentee ought to prove, either that the presence of iron in the bituminous schistus, used in the process of filtering, was not absolutely disadvantageous to the matter going through that process, or that the method of extracting the iron from it was so simple and known, that a person practically acquainted with the subject could accomplish it with ease, or that bituminous schistus, as known in England, could be used in this process with advantage; and a verdict having been found for the plaintiff, the Court set it aside on terms, and granted a new trial.[1]

Not only must there not be any unnecessary *means* mentioned in the specification, but *effects* that cannot accurately be produced must not be mentioned and described. The patentee should inform the inquirer of the *exact* nature of the manufacture invented. If the article described have not the qualities, or the machine produce not the results which are set forth in the specification, the grant is invalid.[2]

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[1] There was not any further litigation, but the patentee disclaimed the use of bituminous schistus.

[2] See Haworth *v.* Hardcastle, 1 Bing. N. C. 1822.

Tindal, C. J.: — "The motion for entering a nonsuit was grounded on two points. First, that the jury had, by their special finding, negatived the usefulness of the invention to the full extent of what the patent and specification had held out to the public. Secondly, that the patentee had claimed, in his specification, the invention of the rails of staves over which the cloths were hung, or, at all events, the placing them in a tier at the upper part of the drying-room."

As to the finding of the jury, it was in these words: — "The jury find the invention is new, and useful upon the whole, and that the specification is sufficient for a mechanic, properly instructed, to make a machine; and that there has been an infringement of the patent; but they also find that the machine is not useful in some cases, for taking up goods."

The specification must be admitted, as it appears to us, to describe the invention to be adapted to perform the operation of removing the calicoes, and other cloths, from off the rails or staves, after they have been sufficiently dried. But we think we are not warranted in drawing so strict a conclusion from this finding of the jury, so as to hold that they have intended to negative, or that they have thereby negatived, that the machine was not useful, in the generality of the cases which

Such is the law, too, if the patentee take his grant for the invention of several things, and he fail in *any one* of them. By Winter's invention,[1] three things were to be produced; one reason for its being considered void was, that the second article, which was called in the patent "white lead," was, in fact, quite a different substance, and which could be used only for a very few of the purposes for which common white lead is applied. Bainbridge's patent,[2] for the improvement of the hautboy, was for *new notes*, in the plural number. On proof, it appeared that he had only found out *one* new note, and he consequently failed in an action of damages for an infringement of the grant, although great ingenuity had been exerted, and the fingering was rendered less complicated by the invention.

In the case of *Lewis v. Marling*,[3] a most important point was settled. A patent was granted for improvements on shearing machines, for shearing or cropping woollen and other cloths. The patentees, in their specification, claimed, (amongst other things,) "the application of a proper substance fixed on or in the cylinder, *to brush* the surface of the cloth to be shorn." The brush for the surface of the cloth was soon found to be useless, and the patentees never sold any machines with it.

The Court decided, that if the patent be granted for several things, one of which is supposed (at the time of enrolling the specification) to be useful, but is afterwards found not to be so, yet the grant is good in law. The opinions of the judges are very excellent.

Lord Tenterden observed: — "As to the objection on the ground that the

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occur for that purpose. After stating that the machine was useful on the whole, the expression, that in some cases it is not useful to take up the cloths, appears to us to lead rather to the inference that, in the generality of cases, it is found useful. And if the jury think it useful in the general, because some cases occur in which it does not answer, we think it would be much too strong a conclusion to hold the patent void. How many cases occur, what proportion they bear to those in which the machine is useful, whether the instances in which it is found not to answer, are to be referred to the species of cloth which are hung out, to the mode of dressing the cloths, to the thickness of them, or to any other cause, distinct and different from the defective structure, or want of power in the machine, this finding of the jury gives us no information whatever. Upon such a finding, therefore, in a case where the jury have given their general verdict for the plaintiff, we think that we should act with great hazard and precipitation, if we were to hold that the plaintiff ought to be nonsuited, upon the ground that his machine was altogether useless for one of the purposes described in his specification.

[1] Turner *v.* Winter, 1 T. R. 602.

[2] Bainbridge *v.* Wigley, K. B. Dec. 1810; and see Brunton *v.* Hawkes, 4 Barn. & Ald. 451.

[3] 10 Barn. & Cress. 22.

application of a brush was claimed as a part of the invention, adverting to the specification, it does not appear that the patentee says the brush is an essential part of the machine, although he claims it as an invention. When the plaintiffs applied for the patent, they had made a machine to which the brush was affixed, but, before any machine was made for sale, they discovered it to be unnecessary. I agree, that, if the patentee mentions that as an essential ingredient in the patent article which is not so, or even useful, and whereby he misleads the public, his patent may be void; but it would be very hard to say that this patent should be void, because the plaintiffs claim to be the inventors of a certain part of the machine not described as essential, and which turns out not to be useful. Several of the cases already decided have borne hardly on patentees, but no case has hitherto gone the length of deciding that such a claim renders a patent void, nor am I disposed to make such a precedent."

Mr. Justice Bayley said: — "I am of the same opinion. To support a patent, it is necessary that the specification should make a full and fair disclosure to the public of all that is known to the patentee respecting his invention. If he does not, the consideration on which he obtains his patent fails. If he represents several things as competent to produce a specific effect, when only one will answer, that is bad; or if he suppresses any thing which he knows will answer, that also is bad. But it is objected here, that the plaintiffs described the application of the brush as parcel of their discovery. At the time when the patent was obtained, a brush was used, and there is no reason to doubt that the plaintiffs, at that time, thought it necessary."

Mr. Justice Parke: — "The objection to the patent, as explained by the specification, may be thus stated. The patent is for several things, one of which, being supposed to be useful, is now found not to be so; but there is no case deciding that a patent is on that ground void, although cases have gone the length of deciding, that, if a patent be granted for three things, and one of them is not new, it fails *in toto*. The prerogative of the crown, as to granting patents, was restrained by the statute 21 Jac. 1, c. 3, § 6, to cases of grants, 'to the true and first inventors of manufactures, which others, at the time of granting the patent, shall not use.' The condition, therefore, is, that the thing shall be new, not that it shall be useful; and, although the question of its utility has been sometimes left to a jury, I think the condition imposed by the statute has been complied with when it has been proved to be new."

Although the description may be otherwise complete and correct, although the means may be adapted to the end, and the things specified be produced; yet, if the subject be not given to the public in the best and *most improved state* known to the inventor, the patent is void. If, at the time of obtaining the grant, he was acquainted with the mode of making his manu-

facture more beneficial than by the one specified, the concealment will be considered fraudulent. Thus, Lord Mansfield held a patent for "steel trusses" to be void, because the inventor had omitted to mention that, in tempering the steel, he rubbed it with tallow, which was of some use in the operation.[1]

In the specification for a patent for making verdigris,[2] aqua fortis, which was used by the inventor, was not mentioned. It appeared that the patentee mixed the aqua fortis, with great secrecy, which raised the presumption that he knew of its value when the grant was sealed. The patent was, therefore, declared to be void.

Nor can any *alteration*, known to the inventor before he procures the patent, be made, however insignificant it may be, even if it were nothing more than the means of working the machine a little more expeditiously, without raising a presumption that the patentee fraudulently concealed the best method. A lace machine,[3] for which Mr. Boville had obtained a patent, was worked with greater expedition *by bending together* two teeth of the dividers, or by making one longer than the others, than if it were used as

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[1] Liardet *v.* Johnson, Bull. N. P. 76; and see 1 T. R. 608.

[2] *Wood and Others* v. *Zimmer and Others*, 1 Holt, 50. Gibbs, C. J.: "It is said that this patent makes verdigris, and is, therefore, sufficient. The law is not so. A man who applies for a patent, and possesses a mode of carrying on that invention in the most beneficial manner, must disclose the means of producing it in equal perfection, and with as little expense and labor, as it costs the inventor himself. The price that he pays for his patent is, that he will enable the public, at the expiration of his privilege, to make it in the same way, and with the same advantages. If any thing which gives an advantageous operation to the thing invented be concealed, the specification is void. Now, though the specification should enable a person to make verdigris substantially as good without aqua fortis, as with it; still, inasmuch as it would be made with more labor by the omission of aqua fortis, it is a prejudicial concealment, and a breach of the terms which the patentee makes with the public."

[3] *Boville* v. *Moore*, Dav. Pat. Cas. 400. Gibbs, C. J.: "There is another consideration respecting the specification, which is also a material one; and that is, whether the patentee has given a full specification of his invention; not only one that will enable a workman to construct a machine answerable to the patent, to the extent most beneficial within knowledge of the patentee at the time; for a patentee, who has invented a machine useful to the public, and can construct it in one way more extensive in its benefit than in another, and states in his specification only that mode which would be least beneficial, reserving to himself the more beneficial mode of practising it, although he will have so far answered the patent as to describe in his specification a machine to which the patent extends; yet he will not have satisfied the law, by communicating to the public the most beneficial mode he was then possessed of, for exercising the privilege granted to him." And see *Brown* v. *Moore*, Rep. of Arts. 28th vol. p. 60.

specified. This mode of using it was known to the inventor before he obtained the patent; and, therefore, Gibbs, C. J., thought that the patent was bad on that account.

If the patentee use *cheaper materials*, in making the manufacture, than those he has enumerated, his grant will not be sustained by his proving that the articles specified will answer the purpose as well.[1]

It signifies not in what manner this advantage accrues to the patentee; it is not necessary that any palpable alteration has taken place; that something has been added or something taken away from the invention as specified, to render the patent void; it will be invalid, if, *by any means* whatever, a benefit is derived by the patentee, which was concealed from the public at the time the patent was obtained, even if it be merely a small part of a machine on which a particular motion is impressed, at a given moment, in a particular direction.[2]

If this improved manner of using the invention be *unintentionally* left undescribed, still the patent is void. "If it was inadvertent," says Gibbs, C. J., speaking of Boville's omission in not describing the bending of the teeth, "if he actually knew and meant to practice that mode, and inadvertently did not state the whole in his specification, he must answer for his inadvertence."[3]

But if it appear that this better mode of using the manufacture be a *subsequent discovery;* that the patentee has, since the date of the grant, found out this new means of carrying on his own invention to a better effect; then the grant will continue valid;[4] but, as before stated, the presumption of concealment will be against him.

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[1] 1 T. R. 607; 1 Holt's N. P. C. 60; *King* v. *Wheeler*, 2 Barn. & Ald. 345.

[2] *King* v. *Arkwright*, Printed Cases, 50. The cylinder in the specification was a parallel one; but that which was used, spiral.

[3] *Boville* v. *Moore*, Dav. Pat. Cas. 413. Gibbs, C. J., observed to the jury, "You will say whether you think there is any fraudulent concealment in the specification." A juryman: "It might be inadvertent, and not fraudulent." Gibbs, C. J.: "Certainly; and if it were inadvertent; and if he actually knew and meant to practise that mode, and inadvertently did not state the whole in his specification, he must answer for his inadvertence; but it might be a subsequent discovery." Verdict for the defendant.

[4] *Boville* v. *Moore*, Dav. Pat. Cas. 401. Gibbs, C. J.: "If Mr. Brown, since he obtained his patent, had discovered an improvement, effected by bending the teeth, or adding a longer tooth, he might apply that improvement; and his patent will not be affected by his using his own machine in that improved state; but if, at the time he obtained his patent, he was apprized of this more beneficial mode of working, and did not by his specification communicate it to the public, that must be considered as a fraudulent concealment, although it was done inadvertently, and will render the patent void."

Another important rule of law was established in the case of *Crossley* v. *Beverley*.[1] Mr. Clegg, the patentee, had a grant for an improved gas apparatus, and he claimed a gas meter, (or part of it,) as described in the specification. It appeared, on the examination of Mr. Clegg himself, that he had invented the method of making the gas meter, as described in the specification, in the time *between the dates of the patent and the specification*. Before he took out the patent, he had completed the design of the meter, but he had not actually made one, and he found several improvements upon it before he sent in his specification, in which he described the meter so improved as the invention claimed by him. The court was clearly of opinion that the patent was valid in law, and Lord Tenterdon observed that he was at a loss to know upon and for what reason a patentee is allowed time to disclose his invention, unless it be for the purpose of enabling him to bring it to perfection. If, added his lordship, in the intermediate time, another person were to discover the improvements for so much of the machine, the patent would not be available. But Mr. Justice Bayley said, "It is *the duty* of a person taking out a patent, to communicate to the public any improvement that he may make upon his invention before the specification has been enrolled."

Upon these grounds and for these reasons, applicable to the specifications of almost all kinds of manufactures, many patents have been declared to be void. The inventor bearing them in mind, and attending to the nature of each kind of manufacture, whether it be a substance or machine, &c., as it is distinguished from the rest in the last chapter, will be able, by avoiding similar errors, to make a correct specification for any invention. Indeed, no further assistance can be given to him than that which may be derived from a few general observations on the description peculiar to each manufacture.

The *description of a machine* must disclose the nature of the invention, and the manner in which it is to be performed. It must be minute without perplexity, and luminous without being overwrought. When it descends to particulars, the elements that are known to all should not be noticed; nor yet, in its fulness, should any thing be included that is not necessary to render it intelligible. It should be such that a common mechanic, with a reasonable degree of skill upon the subject, may comprehend it. Though it need not be so full as to instruct a person ignorant of the first principles of mechanics in the method of its formation and use; yet, on the other hand, a person eminently skilled in the subject must not be required to make it. A reasonable knowledge and skill (of which the jury decide) must be possessed by the person who complains that the specification is obscure, and that he cannot make the machine. No contrivance or addition, no trial or experiment, it is said, must be resorted to for a full knowledge of the invention.[2] This rule

[1] 9 Barn & Cress. 63.

[2] 2 Hen. Bla. 484.

must, however, be taken in a limited sense. Though no inventive faculty must be exercised, or any thing new added, yet trials, if they are not essentially necessary, may be made. If the inventor leave any thing to be found out by experiment, the specification is bad; unless the data, manner of performing, and the expected results are so clearly given, that it may easily be done.

Reference may be made to the rudiments of that science by which the principles of the machine are explained, but not to scientific books.[1] A proposition, or truth generally known, needs no reference; and that which can be found only in some particular treatise must be explained, but not claimed as new.

If a piece of machinery be contemplated for the purpose of giving a full description of it, the several parts, as wheels, rollers, screws, springs, &c., &c., must be set forth, together with the proportion of their diameters, thickness, tension, &c.[2] Then the method by which they are united, and the relative velocities of the movable parts.[3]

If the thing specified be the component parts of *two* machines, the union of the parts that make up each of them must be clearly shown.[4] If parts of the machine are to be put on and off during some of its operations, in order to produce the desired effect, or if several articles are intended to be worked on, or several manufactures to be produced, it must be distinctly stated *what* those parts are, their *proportions* for different purposes, and *where* they are to be applied.[5]

It has been shown that the grant must not be more extensive than the invention;[6] and that, where the patent is for an improvement or addition, the inventor cannot monopolize the whole subject. The specification will, therefore, be incorrect, if it contain a description of *more* than the improvement or addition;[7] unless it particularly distinguish the new from the old parts.

The inventor is not bound down to any particular mode of describing his improvement, so that he informs the public *exactly* in what his invention consists. He may describe it by *words*, or by *diagrams*,[8] but he must confine himself to his invention.

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[1] 11 East, 105.

[2] *King* v. *Arkwright*, Printed Cas. 174; Dav. Pat. Cas. 111.

[3] Id. Printed Cas. 62, 179; Dav. Pat. Cas. 122.

[4] Id. Printed Cas. 174 and 177; Dav. Pat. Cas. 111 and 117.

[5] Ibid.

[6] Godson on Pat.

[7] *Bramah* v. *Hardcastle*, MS. post, 156; and *Williams* v. *Brodie*, cited by counsel in *King* v. *Arkwright*, Printed Cas. 162.

[8] *McFarland* v. *Price*, 1 Stark. 199. Action for infringement. The patent was for certain improvements in the making of umbrellas and parasols. The specifi-

The patent for the improvement of a thing, or for the thing improved, is in essence for the same manufacture.[1] The inventor may either accurately describe the addition, and then point out the method by which it is applied to the known parts; or he may describe the whole as one machine, and then particularize the parts newly discovered.

It is not absolutely necessary that the old parts should be described. They may be referred to generally, if the whole is not thereby rendered unintelligible. Thus, in Jessop's case,[2] whose invention consisted of a single movement in a watch, it was said to be sufficient to refer generally to a common watch, and then to give directions how the new part was to be added to it. There is one decision on an *improvement* which appears to be an anomaly. Harmar[3] obtained a patent for a machine. Having very much improved it,

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cation professed to set out the improvements, as specified in certain descriptions and drawings annexed; but no distinction was made, either in the description, or by any marks in the drawings, between what was new and what was old.

Ellenborough, C. J. The patentee, in his specification, ought to inform the person who consults it, what is new and what is old. The specification states that the improved instrument is made in the manner following. That is not true, since the description comprises what is old, as well as what is new. Then it is said, that the patentee may put in aid the figures. But how can it be collected from the whole of these, in what the improvement consists?

[1] 2 Hen. Bla. 481, 482.

[2] 2 Hen. Bla. 489.

[3] *Harmar* v. *Playne*, 11 East, 101.

The patent was for "a machine invented for raising a shag on all sorts of woollen cloths, and cropping or shearing them, which together come under the description of dressing woollen cloths, and also for cropping or shearing of fustian." There were drawings of the machine. Harmar afterwards invented some improvement of his machine, for which he prayed a patent; which patent was granted upon the usual condition, that he should ascertain the nature of the said invention or the said improvements. The second specification recited the first patent, and described the *whole* of the machine, without showing in words, or marking in the drawing, where the first machine ended, or from what point the improvements began. The improvement could only appear by comparing together the two specifications. It was contended for the plaintiff, that the patent and specification referring to it, are to be construed together as one instrument. The first patent being enrolled, the public were bound to take notice of it; and, being recited in the second, the improvements easily appeared by comparing them. That it was more convenient to give a description of the whole, than, by a literal compliance, to state what the improvements were.

For the defendants it was said, that improvements should be distinctly marked and made known by this second specification alone, without further search or trouble.

Le Blanc, J. Suppose the specification had merely described the improvements, must not the party still have referred to the original specification, or at least have

he procured another patent, in which the first was recited. In the second specification, without any reference being made to the description of the former subject, the whole machine so improved was set forth, without the new parts being distinguished from the old ones. The second grant was held to be good, because the second patent, by reciting the first, referred to its specification, which, by the enrolment, was matter of record, and therefore supposed to be within every person's knowledge.

It must be here observed that Harmar referred to his *own* patent. It seems, by the same reasoning, that it might be laid down as a general rule, that every person, making a manufacture from the subjects of several expired patents, might recite and refer to the specifications of them, without taking any note of their contents.

Sometimes it is difficult to determine, whether the improvements be an addition of new parts, properly so called, or the parts of an old machine, newly arranged, with some material alteration. In the latter case, it is safer to claim the whole as a new engine; and then, in the specification, to distinguish accurately between the old and new manufacture, showing the peculiar qualities of each, the improvement effected, the means that produced it, and the use to which it is to be applied. From the decision it appears that there are several ways of making a correct specification of an improvement.

First. By describing the whole manufacture, and then particularizing with great exactness the addition or improvement of the inventor.[1]

Secondly. By a description of the whole manufacture, pointing out the parts that either are old or not material to the invention.

Thirdly. By giving an accurate and intelligent description of the im-

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brought a full knowledge of it with him, before he could understand truly to adapt the new parts described to the old machine?

Ellenborough J. It would lead to great inconvenience, if books of science were allowed to be referred to. A person ought to tell, from the specification itself, what the invention was for which the specification was granted, and how it is to be executed. If reference may be made to one, why not to many works? It may not be necessary, indeed, in stating a specification of a patent for an improvement, to state precisely all the former known parts of the machine, and then to apply to those the improvement; but, on many occasions, it may be sufficient to refer generally. But, however, I feel impressed by the observation of my brother Le Blanc, that the *trouble and labor* of referring to and comparing the former specification, would be fully as great if the patentee only described in this the precise improvements of the former machine. Reference may be made to general science. The court certified to the Lord Chancellor in favor of the specification.

[1] In *Bramah* v. *Hardcastle*, before Lord Kenyon, 1789, the inventor did not distinguish the part he really invented from the parts that were old, in his new water-closet.

provement, and the manner in which it is applied to the subject, or parts that are old.

Fourthly. By describing the whole manufacture, if it be an improvement of another for which a patent has been obtained, taking care to refer, in the new specification, to that of the former patent.

The observation of the court, in *Minter* v. *Mower*,[1] are worthy of attention, in drawing a specification of a machine. In the specification, the invention was described to be of "An improvement in the construction, making, or manufacturing of chairs," and to consist in the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acted as a counterbalance to the pressure against the back, and whereby a person sitting in the chair, might, by pressing against the back, cause it to take any inclination, and yet might be supported. In an action for infringing the patent, it was pleaded that the specification did not describe the invention. It was proved that a chair had previously been sold, to which a similar leverage was applied, acting by the pressure in the same way, but having also other machinery, which prevented the inclination of the back from being shifted, except when a spring was touched by the hand. The jury found, that, without such other machinery, the chair previously sold would have produced an equilibrium by the self-adjusting leverage; that the maker of it was the inventor of the machine, and found out the principle, but not the practical purpose to which it was now applied; and that the plaintiff had discovered such purpose.

Lord Denman, ordering a nonsuit, thus delivered the judgment of the court. "An action between the same parties has already been decided by the court of exchequer, in which the patent claimed by the plaintiff was deemed good and valid. But, on the trial in this court, an entirely new fact was given in evidence, and affirmed by the verdict of the jury; namely, that a chair very closely resembling that made by the plaintiff's patent, had been made and sold before that patent was taken out. The words of the jury were these: 'We are of opinion that Browne[2] was the inventor of the machine, and found out the principle, but not the practical purpose to which it is now applied. We think that Minter (the plaintiff) made the discovery.' This statement might not be fatal to the plaintiff's title, if his invention were truly set forth in the specification; but the material issue in this cause being simply, whether the plaintiff did thereby particularly describe and ascertain the nature of the said invention, we find it needful to examine the terms of it.

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[1] *Minter* v. *Mower*, 6 Adol. & Ell. Rep. 735.

[2] A workman, see Godson on Pat. 27. Also *Barker* v. *Shaw*, before Holroyd J., at Lancaster, 1823, in which the plaintiff was nonsuited, because his workman invented the improvement in hats.

"Now, the patent is taken out for 'An improvement in the construction, making, or manufacturing of chairs;' the method of making the machine, and the way in which it acts, are then fully described, without any mention of any of the means employed in Browne's chair. The specification thus concludes: 'What I claim as my invention, is the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair, as above described.' Now it was perfectly clear, upon the evidence, that this description applies to Browne's chair, though that was encumbered with some additional machinery. The specification, therefore, claimed more than the plaintiff had invented, and would have actually precluded Mr. Browne from continuing to make the same chair that he had made before the patentee's discovery. We are far from thinking that the patentee might not have established his title, by showing that a part of Browne's chair could have effected that for which the whole was designed. But his claim is not for an improvement upon Browne's leverage, but for a leverage so described that the description comprehended Browne's. We are, therefore, of opinion, that the patent cannot be sustained, and a nonsuit must be entered."

Every combination appears, at first sight, to be subject to the same rules for describing it, as an improvement or addition. The same end, a clear and intelligent description of the manufacture, without any extraneous matter, is to be obtained; but the manner of attaining it is somewhat different.

If it is only a combination of substances, materials, or parts of machines in common use, previously applied for the same or different purposes, then the specification will be correct which sets out the whole as the invention of the patentee;[1] if he clearly express that it is in respect of such new com-

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[1] *Boville* v. *Moore*, 2 Marsh. 211; S. C. Dav. Pat. Cas. 411.

A patent was taken out by Mr. Browne, for "a machine or machines, for the manufacture of bobbin lace or twist net, similar to and resembling the Buckinghamshire lace net and French lace net, as made by the hand with bobbins or pillows," who assigned it to the plaintiff.

Gibbs, C. J. Now, gentlemen, the objections made to this specification upon this part of the case are, that it goes farther than it ought; that it states more to be the invention of Mr. Browne than really was so; and I think I may state generally to you, that they say that all that precedes the crossings of the threads is old, whereas he has stated it as part of his invention; and, besides that, they state that the forks and dividers, which he has stated as part of his invention, are equally old. I think, with respect to the principle, if there existed, at the time Mr. Browne took out his patent, engines for the making of lace, of which his was only an improvement, then his patent ought to have been only for *an improvement*; and certainly, if he could have supported his patent for an *engine*, his specification ought to have pointed out those parts only which were of his invention, as those to which his privilege applied; and, if you should be of opinion that he

bination or application, and of that only, without laying any claim to the merit of original invention in the use of the materials. Nothing more than the invention must be claimed. Every old part which is essential and material

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has, in his specification, stated more than he is entitled to, as what was his invention, then, in my opinion, his specification is bad.

Now, the answer that the plaintiffs have endeavored to give to that objection is this, — they say there is nothing in the world that is absolutely new; you may refer it all to first principles. The wheels are well known; and yet you may state them in your specification as one of the means by which you effect your purpose. Levers are well known; but yet you may state them in the same way; that certainly is so. They go on to say, their invention consists not in that or this particular part, of which their machine is composed, as being new, but in the conformation of all the parts of it; the novelty consisting in that conformation; and, if the new conformation of all those parts was of the plaintiff's invention, then, although every one of the parts was old, they would be entitled to a patent for a machine composed by that new conformation of the whole; but if you find that another person had combined all those parts up to a given point, and that Mr. Browne took up his combination at that point, and went on combining beyond that, if the subsequent combinations alone were his invention, the former combinations he will have no right to. Those combinations could not exist before, unless there had existed an engine in which they were found, and, if there existed before this time an engine in which they were found, it is for you to say, whether this which Mr. Browne has invented is any more than an improvement of that engine, or whether it is the invention of a new engine. If Mr. Browne has only invented an improvement of the old engine, be it Heathcote's, or be it any one or two engines which existed before, then his specification by which he claims the whole to himself will be bad. If, on the other hand, you think that he has invented an engine, which consists of a perfectly new conformation of parts, although all the parts were used before, yet he will be entitled to support his patent for a new machine.

Now, I wish to have what I state upon this subject observed by the counsel on both sides, that they may be aware how I put it. If a combination of those parts existed before; if a combination of a certain number of these parts existed up to a given point before, and Mr. Browne's invention sprung from that point, and added other combinations to it; then I think this specification, stating the whole machine as his invention, is bad. If, on the other hand, you think he has the merit of inventing the combination of all the parts from the beginning, then I think the specification is good, and that he is entitled to your verdict. Verdict for the defendant.

Gibbs, C. J. Gentlemen, I will just ask you this: — Do you find that the combination of the parts up to the crossing of the threads is not new?

Foreman. Yes, my lord.

Juryman. The threads, then, taking a new direction, and certainly the most valuable part to the plaintiff, is a new invention; but we are of opinion it is nothing more than an improvement.

in producing the intended effect will be considered as claimed, if it be not designated as old. If the part in common use be even an elementary principle or a single combination, and effect a new end, it becomes a part of the substance of the invention, and must be protested against as not being claimed.

If the invention consist of a new *set of combinations*, added to a manufacture composed of combinations, then, though the effect produced be different throughout, the specification should only describe the new combinations which have been invented, and how they are to be added to the old ones.

If the *combination* consist of the subjects of *several patents* which have expired, or of some *new ones* that have been bought, it would appear from the reasoning of Ellenborough, C. J., that a description of the method by which they were combined, with a reference to the several specifications, would be all that is required to sustain the patent.[1]

Pursuing the same order, in giving rules for making specifications, as was followed in the former chapter, when the different subjects of patents were examined, the necessary description of the fifth kind of new manufactures, principles, or *methods carried into practice* by tangible means, must now be investigated. It was shown in the last chapter, that a principle could not be the object of a patent. The impossibility of giving a description of it, in every instance in which it might be used, was urged as a strong argument against its being allowed to be monopolized.

Reasons have also been assigned why a method, *merely as such*, is not a proper subject for a patent. If a method can be the subject of a patent, the description of it must, indeed, be very accurate. It must be so clear and evident that no experiments must be necessary to learn it, and to put it in practice as beneficially as the patentee enjoys it.

If neither a principle nor a method can be the subject of a patent within the meaning of the statute of James; if, when a patent is obtained for a method, it is, in fact, granted for *tangible means* of carrying that method into practice;[2] it is quite evident that the specification of a method is governed by the same rules as if the description was to be given of some one kind of the above-mentioned manufactures, whether the *real subject* of the patent be a machine, improvement, or combination, and, therefore, that any further comment would be superfluous.

When a chemical discovery is the foundation of the invention for which the patent has been granted, inasmuch as the substance or thing produced, and not the principle, process, or method, is the legal subject of the patent, it ought to be described. The ingredients, their proportions, the time of

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[1] Harmar *v.* Playne, 11 East, 107; Godson on Pat. 159.

[2] Godson on Pat. 73.

mixing, &c., ought to be fully stated, and then the beneficial *use* to which the substance can be applied.[1]

A manufacture, when first introduced into England, whether it be a substance or machine, an improvement of something already known here, or a combination of native discoveries, still it must be fully and correctly explained. Its specification is regulated by the same laws, and is subject to the same critical examination, as if it were an English invention.

Thus it appears that *every part* which is new, however minute, must be clearly described. In the specification of a *substance*, the simplest elements of which it can be formed, and the best modes of making and using it, must be accurately stated. In descriptions of *machines*, there must, with scrupulous fidelity, be set forth the cheapest materials, the most exact proportions of the parts, the most expeditious and the best mode of conducting them, with the precise times of putting on or taking off any part of the machine; and an *improvement* or new *combination* must be kept distinctly apart from the old manufacture.

The public must be put in possession of the manufacture, in a way as ample and beneficial as the patentee enjoys it.

It has been shown that it is a technical, but unjust rule of law, that, if the inventor claims any thing in the *title* to his patent, or in the specification, which is not *new*, or has been before *used*, then the whole patent becomes void. It has also been contended, that every part should be useful as well as new; but that was overruled by the judges, in the case of *Lewis* v. *Marling*.[2]

In the first section of 5 & 6 Will. IV. c. 83, the law has been altered in the following words: —

"Any person who, as grantee, assignee, or otherwise, hath obtained, or who shall hereafter obtain letters-patent, for the sole making, exercising, vending, or using of any invention, may, if he think fit, enter with the clerk of the patents of England, Scotland, or Ireland, respectively, as the case may be, (having first obtained the leave of his Majesty's attorney-general or solicitor-general in case of an English patent, of the lord-advocate or solicitor-general of Scotland in the case of a Scotch patent, or of his Majesty's attorney-general or solicitor-general for Ireland in the case of an Irish patent, certified by his fiat and signature,) *a disclaimer of any part of either the title of the invention or of the specification, stating the reason for such disclaimer*, or may, with such leave as aforesaid, enter a memorandum of *any alteration in the said title or specification*, not being such disclaimer or such alteration,

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[1] Turner *v.* Winter, 1 T. R. 602. The specification to this patent is what a scientific man, unacquainted with legal strictness, would naturally have made. It contains almost every fault generally found in the descriptions of this class of manufactures. It is, therefore, given fully in the different parts of the text.

[2] 10 B. & C. 22.

as shall *extend the exclusive right* granted by the said letters-patent; and such disclaimer or memorandum of alteration, being filed by the said clerk of the patents, and enrolled with the specification, shall be deemed and taken to be part of such letters-patent, or such specification, in all courts whatever; *provided* always, that any person may enter a caveat, *in like manner as caveats are now used to be entered*,[1] against such disclaimer or alteration; which caveat, being so entered, shall give the party entering the same a right to have notice of the application being heard by the attorney-general or solicitor-general, or lord-advocate, respectively; *provided also*, that no such disclaimer or alteration shall be receivable in evidence, in any action or suit (save and except in any proceeding by *scire facias*) *pending at the time* when such disclaimer or alteration was enrolled, but, in every such action or suit, the original title and specification alone shall be given in evidence, and deemed and taken to be the title and specification of the invention for which the letters-patent have been or shall have been granted; *provided also*, that it shall be lawful for the attorney-general or solicitor-general, or lord-advocate, before granting such fiat, to require the party applying for the same to *advertise his disclaimer* or alteration, in such manner as to such attorney-general or solicitor-general, or lord-advocate, shall seem right; and shall, if he so require such advertisement, certify in his fiat that the same has been duly made."

The entry of a disclaimer of part of a specification, under the 5 & 6 Will. IV. c. 83, § 1, does not give a right of action for infringements committed previously to the disclaimer.[2]

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[1] See Godson on Pat. ch. v. as to the method of entering *caveats*.

[2] Perry *v.* Skinner, in Exch. E. T. 1837; Law Journal, p. 127.

CHAPTER II.

PROCEEDINGS AT THE PATENT OFFICE.

I. Caveat for Incomplete Invention.
II. The Petition, Oath, Payment of Fees.
III. Signatures of the Secretary of State and Commissioner.
IV. Interfering Applications.
V. Renewal and Amendment of Patents.

Caveat for Incomplete Invention.

§ 170. The twelfth section of the Act of July 4, 1836, provides that any citizen of the United States, or alien, who shall have been resident in the United States one year next preceding, and who shall have made oath of his intention to become a citizen thereof, who shall have invented any new art, machine, or improvement thereof, and shall desire further time to mature the same, may, on payment of the sum of twenty dollars, file in the Patent-Office a *caveat*, setting forth the design and purpose thereof, and its principal and distinguishing characteristics, and praying protection of his right, till he shall have matured his invention; which sum of twenty dollars, in case the person filing such caveat shall afterwards take out a patent for the invention therein mentioned, shall be considered a part of the sum required for the same. And such *caveat* shall be filed in the confidential archives of the office, and preserved in secrecy. And if application shall be made by any other person within one year from the time of filing such a *caveat*, for a patent of any invention with which it may in any respect interfere, it shall be the duty of the commissioner to deposit the description, specifications, drawings, and model, in the confidential archives

of the office, and to give notice, by mail, to the person filing the caveat, of such application, who shall, within three months after receiving the notice, if he would avail himself of the benefit of his caveat, file his description, specifications, drawings, and model; and if, in the opinion of the commissioner, the specifications of claim interfere with each other, like proceedings may be had in all respects as are provided in the case of interfering applications.

The Petition, Oath, Payment of Fees, etc.

§ 171. The Act of 1836, § 6, requires an inventor who desires to obtain a patent, to "*make application in writing* to the Commissioners of Patents," &c. This application in writing has, from the origin of the government, been by way of petition, generally with the specification annexed and referred to, or accompanied by the specification, filed at the same time. The form of the petition is not material, provided it set forth the facts to which the applicant is required to make oath. When filed, it is to be presumed to adopt the specification, or schedule, filed at the same time, and to ask for a patent for the invention therein described.[1]

§ 172. The applicant is also required to make oath or affirmation, that he does verily believe that he is "the original and first inventor," &c., "and that he does not know or believe that the same was ever before known or used," and also of what country he is a citizen; which oath or affirmation may be made before any person authorized by law to administer oaths.[2]

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[1] Hogg *v.* Emerson, 6 Howard, 437, 480. The rules of the Patent-Office give a form of petition which it is advisable to adopt, in all cases. See Appendix.

[2] Act of July 4, 1836, § 6. The oath extends to all described in the schedule filed with the petition, as well as to the title or description of the invention contained in the petition itself. Hogg *v.* Emerson, 6 Howard, 437, 482.

§ 173. The applicant is required to make oath or affirmation, not that he is the original and first inventor or discoverer, but that he believes himself to be so. He cannot know absolutely whether he first invented or discovered the thing for which he claims a patent, but he may believe that he did; and it is only when he is willing to make oath that he so believes, that the law grants him the patent. A subsequent section of the same statute provides for one case, in which a patent shall still be valid, if issued to an applicant who believed himself to be the first inventor or discoverer, although he was not so, in point of fact. This case is where the invention or discovery had been previously known or used in a foreign country, but had not been patented or described in any public work, and the patentee was ignorant of that fact. If the patentee, before making his application, had learned that the thing had been known or used in a foreign country, although not patented, or described in any foreign work, he cannot have believed himself to be the first inventor or discoverer. But if he learn the fact after he has taken the oath, it will not invalidate his patent.[1]

§ 174. An irregularity in the form of the oath will be cured by the issuing of the patent, and it seems that a patent would be valid, when issued, although the oath might not have been taken at all. It has been held that the taking of the oath is only a prerequisite to the granting of the patent, and in no degree essential to its validity; so that, if the proper authorities, from inadvertence or any other cause, should grant a patent, where the applicant had not made oath according to the requisitions of the statute, the patent would still be valid. But where the oath has been taken and is recited in the patent, it is the foundation of the *onus probandi* thrown on the party who alleges that the patentee was not the original and first inventor.[2]

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[1] Act 4th July, 1836, § 15.

[2] Alden *v.* Dewey, 1 Story's R. 336, 341.

§ 175. The ninth section of the statute provides that, before any application for a patent shall be considered by the commissioner, the applicant shall pay into the treasury of the United States, or into any of the deposit banks, to the credit of the Treasury, if he be a citizen of the United States, or an alien, and shall have been resident in the United States for one year next preceding, and shall have made oath of his intention to become a citizen thereof, the sum of thirty dollars; if a subject of the King of Great Britain, the sum of five hundred dollars.[1]

Signatures of the Secretary of State and of the Commissioner of Patents.

§ 176. The Act of July 4, 1836, c. 357, § 5, provides that patents shall be issued from the Patent-Office, "in the name of the United States, and under the seal of said office, and be signed by the secretary of state, and countersigned by the commissioner of said office."

§ 177. It has been held that the sanction of the secretary of state to a correction of a clerical mistake in letters-patent, may be given in writing afterwards; and that he need not resign the letters themselves. But the commissioner, if he be the same officer who countersigned the letters originally, may make the correction, without resigning or resealing. If the mistake occurs in the copy of the patent, and not in the record or enrolment, it may be corrected by the commissioner, and made to conform to the original. If the mistake in the enrolled patent be a material one, the letters cannot operate, except on cases arising after the correction is made; but, if the correction be of a clerical mistake only, it operates back to the original date of the letters, unless, perhaps, as to

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[1] Act 4th July, 1836, § 9.

third persons, who have acquired intervening rights to be affected by the alteration.[1]

§ 178. It has also been held, that a signature to the patent, and a certificate of copies by a person calling himself "acting commissioner," is sufficient on its face, in controversies between the patentee and third persons, as the law recognizes an acting commissioner to be lawful.[2]

Renewal or Amendment of a Patent.

§ 179. The Act of July 4, 1836, § 13, makes the following provision in case of a defective or insufficient specification, or of the subsequent invention of something which the patentee wishes to add to his specification.

§ 180. "And be it further enacted: That, whenever any patent which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a right to claim as new; if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention, it shall be lawful for the commissioner, upon the surrender to him of such patent, and the payment of the further duty of fifteen dollars, to cause a new patent to be issued to the said inventor, for the same invention, for the residue of the period then unexpired for which the original patent was granted, in accordance with the patentee's corrected description and specification. And, in case of his death, or any assignment by him made of the original patent,

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[1] Woodworth *v.* Hall, 1 Woodb. & M. 248; S. C. Ibid. 389.

[2] Woodworth *v.* Hall, 1 Woodb. & M. 248. Where evidence is offered to prove that the "acting commissioner" who signs a patent was not appointed by the President, it is doubtful whether it is competent in controversies where he is not a party. S. C. 1 Woodb. & M. 389.

a similar right shall vest in his executors, administrators, or assignees. And the patent so reissued, together with the corrected description and specification, shall have the same effect and operation in law, on the trial of all actions, hereafter commenced for causes subsequently accruing, as though the same had been originally filed in such corrected form, before the issuing out of the original patent. And whenever the original patentee shall be desirous of adding the description and specification of any new improvement of the original invention or discovery, which shall have been invented or discovered by him subsequent to the date of his patent, he may, like proceedings being had in all respects as in the case of original applications, and on the payment of fifteen dollars, as herein before provided, have the same annexed to the original description and specification; and the commissioner shall certify, on the margin of such annexed description and specification, the time of its being annexed and recorded; and the same shall thereafter have the same effect in law, to all intents and purposes, as though it had been embraced in the original description and specification." [1]

§ 181. The question has been made, how far the decision

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[1] The Act of March 3, 1837, § 8, makes a further provision on this subject:

"And be it further enacted, That, whenever application shall be made to the commissioner for any addition of a newly-discovered improvement to be made to an existing patent, or whenever a patent shall be returned for correction and reissue, the specification of claim annexed to every such patent shall be subject to revision and restriction, in the same manner as are original applications for patents; the commissioner shall not add any such improvement to the patent in the one case, nor grant the reissue in the other case, until the applicant shall have entered a disclaimer, or altered his specification of claim, in accordance with the decision of the commissioner; and, in all such cases, the applicant, if dissatisfied with such decision, shall have the same remedy, and be entitled to the benefit of the same privileges and proceedings, as are provided by law in the case of original applications for patents."

of the commissioner upon the existence of a defective description, arising from inadvertence, accident, or mistake, is reëxaminable elsewhere. This question arises, when the defence is set up, that the renewed patent is for a different invention from the old one. As the description in the new patent differs from that in the old, if the decision of the commissioner, by which the new patent was granted under the statute, is open to reëxamination, so that the fact of the existence of defects in the former patent can be inquired into, the point is open to the defendant to contend that the new patent is not for the same invention, covered by the old one. But, on the other hand, if the action of the Commissioner is conclusive, then the granting of a new patent, in the proceeding provided by the statute, precludes all inquiry into the fact whether it was rightly granted, and makes the new patent of necessity applicable to the same invention as the old one.

§ 181 *a*. It has not been satisfactorily determined, what precise weight is to be given to the decision of the Commissioner. Under the Act of 1832, the Supreme Court of the United States held, that the reissue of a patent by the Commissioner, on account of a defective specification, was *primâ facie* evidence that the proofs required by the statute had been regularly made, and were satisfactory.[1] Subsequently, under the Act of 1836, the same court appear to have considered the granting of the renewed patent as so far conclusive upon the question of the existence of error in the original patent, arising from inadvertency, accident, or mistake, that nothing remained open but the fairness of the transaction; that the question of fraud might be raised, and that this was for the jury; but that, unless the surrender and renewal were impeached by showing fraud, the reissue must be deemed conclusive proof that the case provided for by the statute

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[1] The Philadelphia and Trenton Rail Road Company *v.* Stimpson, 14 Peters, 448.

existed.[1] This was the view taken by Mr. Justice Story, in two previous cases.[2] Mr. Justice Woodbury seems to have

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[1] Stimpson *v.* Westchester Rail Road Company, 4 Howard, 380.

[2] Woodworth *v.* Stone, 3 Story's R. 749, 753. In this case, which was in equity, the learned judge said: "But the most material objection taken, is, that the new patent is not for the same invention as that which has been surrendered. And certainly, if this be correct, there is a fatal objection to the prolongation of the injunction. But is the objection well founded in point of fact? It is said, that the present patent is for a combination only, and that the old patent was for a combination and something more, or different. But I apprehend that, upon the face of the present patent, the question is scarcely open for the consideration of the court; and, at all events, certainly not open in this stage of the cause. I have already, in another cause, had occasion to decide that, where the Commissioner of Patents accepts a surrender of an old patent, and grants a new one, under the Act of 1836, ch. 357, his decision, being an act expressly confided to him by law, and dependent upon his judgment, is not reëxaminable elsewhere; and that the court must take it to be a lawful exercise of his authority, unless it is apparent upon the very face of the patent, that he has exceeded his authority, and there is a clear repugnancy between the old and the new patent, or the new one has been obtained by collusion between the commissioner and the patentee. Now, upon the face of it, the new patent, in the present case, purports to be for the same invention, and none other, that is contained in the old patent. The avowed difference between the new and the old, is, that the specification in the old is defective, and that the defect is intended to be remedied in the new patent. It is upon this very ground, that the old patent was surrendered and the new patent was granted. The claim in the new patent is not of any new invention, but of the old invention more perfectly described and ascertained. It is manifest that, in the first instance, the commissioner was the proper judge whether the invention was the same or not, and whether there was any deficit in the specification or not, by inadvertence, accident, or mistake; and, consequently, he must have decided that the combination of machinery claimed in the old patent was, in substance, the same combination and invention claimed and described in the new. My impression is, that, at the former trial of the old patent before me, I held the claim substantially (although obscurely worded) to be a claim for the invention of a particular combination of machinery, for planing, tonguing, and grooving, and dressing boards, &c.; or, in other words, that it was the claim of an invention of a planing machine or planing apparatus, such as he had described in his specification.

It appears to me, therefore, that, *primâ facie*, and, at all events, in this stage of the cause, it must be taken to be true, that the new patent is for the

regarded the effect of the Commissioner's action, as held by the Supreme Court, somewhat differently.[1]

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same invention as the old patent; and that the only difference is, not in the invention itself, but in the specification of it. In the old, it was defectively described and claimed. In the new, the defects are intended to be remedied. Whether they are effectually remedied, is a point not now properly before the court. But, as the Commissioner of Patents has granted the new patent as for the same invention as the old, it does not appear to me, that this court is now at liberty to reverse his judgment, or to say that he has been guilty of an excess of authority, at least (as has been already suggested) not in this stage of the cause; for that would be for the court of itself to assume to decide many matters of fact, as to the specification, and the combination of machinery in both patents, without any adequate means of knowledge or of guarding itself from gross error. For the purpose of the injunction, if for nothing else, I must take the invention to be the same in both patents, after the Commissioner of Patents has so decided, by granting the new patent."

In Allen *v.* Blunt, 3 Story's R. 742, 743, which was an action at law, he observed, "The 13th section of the Patent Act of 1836, ch. 357, enacts, that, whenever any patent shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a right to claim as new, if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention, it shall be lawful for the commissioner, upon the surrender to him of such patent, and the payment of the further duty of fifteen dollars, to cause a new patent to be issued for the same invention, for the residue of the term, then unexpired, for which the original patent was granted, in accordance with the patentee's corrected description and specification. Now, the specification may be defective or insufficient, either by a mistake of law, as to what is required to be stated therein in respect to the claim of the inventor, or by a mistake of fact, in omitting things which are indispensable to the completeness and exactness of the description of the invention, or of the mode of constructing, or making, or using the same. Whether the invention claimed in the original patent, and that claimed in the new amended patent, is substantially the same, is and must be, in many cases, a matter of great nicety and difficulty to decide. It may involve consideration of fact, as well as of law. Who is to decide the question? The true answer is, the Commissioner of Patents; for the law entrusts him with the authority, not only

[1] Allen *v.* Blunt, 2 Woodb. & Minot, 121, 138; Woodworth *v.* Edwards, 3 Woodb. & Minot, 120.

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2 Woodworth *v.* Stone, 3 Story's R. 749, 753. In this case, which was in equity, the learned judge said: "But the most material objection taken, is, that the new patent is not for the same invention as that which has been surrendered. And certainly, if this be correct, there is a fatal objection to the prolongation of the injunction. But is the objection well founded in point of fact? It is said, that the present patent is for a combination only, and that the old patent was for a combination and something more, or different. But I apprehend that, upon the face of the present patent, the question is scarcely open for the consideration of the court; and, at all events, certainly not open in this stage of the cause. I have already, in another cause, had occasion to decide that, where the Commissioner of Patents accepts a surrender of an old patent, and grants a new one, under the Act of 1836, ch. 357, his decision, being an act expressly confided to him by law, and dependent upon his judgment, is not reëxaminable elsewhere; and that the court must take it to be a lawful exercise of his authority, unless it is apparent upon the very face of the patent, that he has exceeded his authority, and there is a clear repugnancy between the old and the new patent, or the new one has been obtained by collusion between the commissioner and the patentee. Now, upon the face of it, the new patent, in the present case, purports to be for the same invention, and none other, that is contained in the old patent. The avowed difference between the new and the old, is, that the specification in the old is defective, and that the defect is intended to be remedied in the new patent. It is upon this very ground, that the old patent was surrendered and the new patent was granted. The claim in the new patent is not of any new invention, but of the old invention more perfectly described and ascertained. It is manifest that, in the first instance, the commissioner was the proper judge whether the invention was the same or not, and whether there was any deficit in the specification or not, by inadvertence, accident, or mistake; and, consequently, he must have decided that the combination of machinery claimed in the old patent was, in substance, the same combination and invention claimed and described in the new. My impression is, that, at the former trial of the old patent before me, I held the claim substantially (although obscurely worded) to be a claim for the invention of a particular combination of machinery, for planing, tonguing, and grooving, and dressing boards, &c.; or, in other words, that it was the claim of an invention of a planing machine or planing apparatus, such as he had described in his specification.

It appears to me, therefore, that, *primâ facie*, and, at all events, in this stage of the cause, it must be taken to be true, that the new patent is for the

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same invention as the old patent; and that the only difference is, not in the invention itself, but in the specification of it. In the old, it was defectively described and claimed. In the new, the defects are intended to be remedied. Whether they are effectually remedied, is a point not now properly before the court. But, as the Commissioner of Patents has granted the new patent as for the same invention as the old, it does not appear to me, that this court is now at liberty to reverse his judgment, or to say that he has been guilty of an excess of authority, at least (as has been already suggested) not in this stage of the cause; for that would be for the court of itself to assume to decide many matters of fact, as to the specification, and the combination of machinery in both patents, without any adequate means of knowledge or of guarding itself from gross error. For the purpose of the injunction, if for nothing else, I must take the invention to be the same in both patents, after the Commissioner of Patents has so decided, by granting the new patent."

In Allen *v.* Blunt, 3 Story's R. 742, 743, which was an action at law, he observed, "The 13th section of the Patent Act of 1836, ch. 357, enacts, that, whenever any patent shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a right to claim as new, if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention, it shall be lawful for the commissioner, upon the surrender to him of such patent, and the payment of the further duty of fifteen dollars, to cause a new patent to be issued for the same invention, for the residue of the term, then unexpired, for which the original patent was granted, in accordance with the patentee's corrected description and specification. Now, the specification may be defective or insufficient, either by a mistake of law, as to what is required to be stated therein in respect to the claim of the inventor, or by a mistake of fact, in omitting things which are indispensable to the completeness and exactness of the description of the invention, or of the mode of constructing, or making, or using the same. Whether the invention claimed in the original patent, and that claimed in the new amended patent, is substantially the same, is and must be, in many cases, a matter of great nicety and difficulty to decide. It may involve consideration of fact, as well as of law. Who is to decide the question? The true answer is, the Commissioner of Patents; for the law entrusts him with the authority, not only

[1] Allen *v.* Blunt, 2 Woodb. & Minot, 121, 138; Woodworth *v.* Edwards, 3 Woodb. & Minot, 120.

§ 182. Mr. Justice Story has held, that the statutes which authorize the reissue of a patent, because of a defective or redundant specification or description, without fraud, or for

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to accept the surrender, but to grant the new amended patent. He is bound, therefore, by the very nature of his duties, to inquire into and ascertain, whether the specification is sufficient or insufficient, in point of law or fact, and whether the inventor has claimed more than he has invented, and, in such case, whether the error has arisen from inadvertency, accident, or mistake, or with a fraudulent or deceptive intention. No one can well doubt, that, in the first instance, therefore, he is bound to decide the whole law and facts arising under the application for the new patent. *Primâ facie*, therefore, it must be presumed that the new amended patent has been properly and rightfully granted by him. I very much doubt whether his decision is or can be reëxaminable in any other place, or in any other tribunal, at least, unless his decision is impeached, on account of gross fraud or connivance between him and the patentee; or unless his excess of authority is manifest upon the very face of the papers; as, for example, if the original patent were for a chemical combination, and the new amended patent were for a machine. In other cases, it seems to me, that the law, having entrusted him with authority to ascertain the facts, and to grant the patent, his decision, *bonâ fide* made, is conclusive. It is like many other cases, where the law has referred the decision of a matter to the sound discretion of a public officer, whose adjudication becomes conclusive. Suppose the Secretary of the Treasury should remit a penalty or forfeiture incurred by a breach of the laws of the United States, would his decision be reëxaminable in any court of law, upon a suit for the penalty or forfeiture? The President of the United States is, by law, invested with authority to call for the militia to suppress insurrections, to repel invasions, and to execute the laws of the Union; and it has been held by the Supreme Court of the United States, that his decision as to the occurrence of the exigency, is conclusive. (Martin *v.* Mott, 12 Wheat. R. 19.) In short, it may be laid down as a general rule, that, where a particular authority is confided to a public officer, to be exercised by him, in his discretion, upon the examination of facts, of which he is made the appropriate judge, his decision upon these facts is, in the absence of any controlling provisions, absolutely conclusive as to the existence of those facts. My opinion, therefore, is, that the grant of the present amended patent by the Commissioner of Patents, is conclusive as to the existence of all the facts which were by law necessary to entitle him to issue it; at least, unless it was apparent on the very face of the patent itself, without any auxiliary evidence, that he was guilty of a clear excess of authority, or that the patent was procured by a fraud between him and the patentee, which is not pretended in the present case."

the purpose of adding thereto an improvement, do not require the patentee to claim, in his renewed patent, all things which were claimed in his original patent, but they give him the privilege of retaining whatever he deems proper.[1]

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[1] Carver *v.* The Braintree Manuf. Co. 2 Story's R. 432, 438. In this case, the learned judge said: "The next objection is, that the patentee has omitted some things in his renewed patent, which he claimed in his original patent as a part of his invention, viz., the knob, the ridge, and the flaring of the lateral surface of the rib above the saw, and that he claims, in his renewed patent, the combination of the thickness and the slope of the front and back surfaces of the rib. Now, by the thirteenth section of the Patent Act of 1836, ch. 357, it is provided, that, whenever any patent which is granted, "shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a right to claim as new, if the error has or shall have arisen by inadvertency, mistake, or accident, and without any fraudulent or deceptive intention, it shall be lawful for the commissioner, upon the surrender to him of such patent, and the payment of the further sum of fifteen dollars, to cause a new patent to be issued to the inventor, for the same invention, for the residue of the period, then unexpired, for which the original patent was granted, in accordance with the patentee's corrected description and specification." And it is afterwards added, that, "Whenever the original patentee shall be desirous of adding the description of any new improvement of the original invention or discovery, which shall have been invented or discovered by him subsequent to the date of his patent, he may, like proceedings being had in all respects as in the case of original applications, and on the payment of fifteen dollars, as hereinbefore provided, have the same annexed to the original description and specification. The Act of 1837, ch. 45, § 8, further provides, "that, whenever any application shall be made to the commissioner for any addition, or a newly discovered improvement, to be made to an existing patent, or whenever a patent shall be returned for correction and reissue, the specification annexed to every such patent shall be subject to revision and restriction, in the same manner as original applications for patents; the commissioner shall not add any such improvements to the patent in the one case, nor grant the reissue in the other case, until the applicant shall have entered a disclaimer, or altered his specification of claim, in accordance with the decision of the commissioner." (Act of 1836, ch. 357, § 15.)

Now I see nothing in these provisions which, upon a reissue of a patent, requires the patentee to claim all things in the renewed patent, which were claimed as his original invention, or part of his invention in his original

§ 183. When a patent is thus renewed, it is granted for the unexpired term, commencing from the date of the original patent, which is surrendered. Consequently, it operates from the commencement of the original, and will enure to the benefit of assignees, who became such before the renewal, although no assignment is made to them after the renewal.[1]

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patent. On the contrary, if his original patent claimed too much, or if the commissioner deemed it right to restrict the specification, and the patentee acquiesced therein, it seems to me, that, in each case, the renewed patent, if it claimed less than the original, would be equally valid. A specification may be defective and unmaintainable under the Patent Act, as well by an excess of claim, as by a defect in the mode of stating it. How can the court in this case judicially know, whether the patentee left out the knob and ridge, and flaring of the lateral surface of the rib, in the renewed patent, because he thought that they might have a tendency to mislead the public, by introducing what, upon further reflection, he deemed immaterial or unessential, and that the patent would thus contain more than was necessary to produce the described effect, and be open to an objection, which might be fatal to his right, if it was done to deceive the public? (Act of 1836, ch. 357, § 15.) Or, how can the court judicially know, that the commissioner did not positively require this very omission? It is certain, that he might have given it his sanction. But I incline very strongly to hold a much broader opinion; and that is, that an inventor is always at liberty, in a renewed patent, to omit a part of his original invention, if he deems it expedient, and to retain that part only of his original invention, which he deems it fit to retain. No harm is done to the public by giving up a part of what he has actually invented; for the public may then use it; and there is nothing in the policy or terms of the Patent Act, which prohibits such a restriction.

The other part of the objection seems to me equally untenable. If the description of the combination of the thickness, and the slope of the front and back surfaces of the rib, were a part of the plaintiff's original invention, (as the objection itself supposes,) and were not fully stated in the original specification, that is exactly such a defect as the Patent Acts allow to be remedied. A specification may be defective, not only in omitting to give a full description of the mode of constructing a machine, but, also, in omitting to describe fully in the claim, the nature and extent, and character of the invention itself. Indeed this latter is the common defect, for which most renewed patents are granted."

[1] Woodworth *v.* Stone, 3 Story's R. 749. Woodworth *v.* Hall, 1 Woodbury & Minot, 248. Both of these cases related to the same patent. In the

§ 184. The Supreme Court of the United States have decided, upon great consideration, that the Commissioner of

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first, Mr. Justice Story said: "If the present case had stood merely upon the original bill, it appeaas to me clear, that the motion to dissolve the injunction granted upon that bill, ought to prevail, because, by the surrender of the patent, upon which that bill is founded, the right to maintain the same would be entirely gone. I agree that it is not in the power of the patentee, by a surrender of his patent, to affect the rights of third persons, to whom he has previously, by assignment, passed his interest in the whole or a part of the patent, without the consent of such assignees. But, here, the supplemental bill admits, that the assignees, who are parties to the original and supplemental bill, have consented to such a surrender. They have, therefore, adopted it; and it became theirs in the same manner as if it had been their personal act, and done by their authority.

The question, then, is precisely the same, as if the suit were now solely in behalf of the patentee. In order to understand, with clearness and accuracy, some of the objections to the continuance of the injunction, it may be necessary to state, that the original patent to William Woodworth, (the inventor,) who is since deceased, was granted on the 27th of December, 1828. Subsequently, under the 18th section of the Act of 1836, ch. 357, the Commissioner of Patents, on the 16th of November, 1842, recorded the patent in favor of William W. Woodworth, the administrator of William Woodworth, (the inventor,) for seven years, from the 27th of December, 1842. Congress, by an act passed at the last session, (Act of 27th of February, ch. 27,) extended the time of the patent for seven years, from and after the 27th of December, 1849, (to which time the renewed patent extended); and the Commissioner of Patents was directed to make a certificate of such extension, in the name of the administrator of William Woodworth, (the inventor,) and to append an authenticated copy thereof to the original letters-patent, whenever the same shall be requested by the said administrator or his assigns. The Commissioner of Patents, accordingly, on the 3d of March, 1845, at the request of the administrator, made such certificate on the original patent. On the 8th day of July, 1845, the administrator surrendered the renewed patent granted to him, "on account of a defect in the specification." The surrender was accepted, and a new patent was granted on the same day to the administrator, reciting the preceding facts, and that the surrender was "on account of a defective specification," and declaring that the new patent was extended for fourteen years from the 27th December, 1828, "in trust for the heirs at law of the said W. Woodworth, (the inventor,) their heirs, administrators or assigns."

Now, one of the objections taken to the new patent is, that it is for the

Patents can lawfully receive a surrender of letters-patent for a defective specification, and issue new letters-patent upon

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term of fourteen years, and not for the term of seven years, or for two successive terms of seven years. But it appears to me that this objection is not well founded, and stands *inter Apices juris;* for the new patent should be granted for the whole term of fourteen years, from the 27th of December, and the legal effect is the same as it would be if the patent was specifically renewed for two successive terms of seven years. The new patent is granted for the unexpired term only, from the date of the grant, namely, for the unexpired period existing on the 8th of July, 1845, by reference to the original grant in December, 1828. It is also suggested, that the patent ought not to have been "in trust for the heirs at law of the said W. Woodworth, their heirs, administrators or assigns." But this is, at most, a mere verbal error, if, indeed, it has any validity whatsoever; for the new patent will, by operation of law, enure to the sole benefit of the parties in whose favor the law designed it should operate, and not otherwise. It seems to me that the case is directly within the purview of the 10th and 13h sections of the Act of 1836, ch. 357, taking into consideration their true intent and objects.

Another objection urged against the continuation of the injunction is, that the breach of the patent assigned in the original bill, can have no application to the new patent, and there is no ground to suggest, that, since the injunction was granted, there has been any new breach of the old patent, or any breach of the new patent. But it is by no means necessary that any such new breach should exist. The case is not like that of an action at law for the breach of a patent, to support which it is indispensable to establish a breach before the suit was brought. But, in a suit in equity, the doctrine is far otherwise. A bill will lie for an injunction, if the patent-right is admitted, or has been established, upon well-grounded proof of an apprehended intention of the defendant to violate the patent-right. A bill, *quia timet*, is an ordinary remedial process in equity. Now, the injunction already granted, (supposing both patents to be for the same invention,) is *primâ facie* evidence of an intended violation, if not of an actual violation."

In the last case, Mr. Justice Woodbury said: "The original patent for fourteen years, given in December, 1828, expired in 1842, and, though it was extended by the board for seven years more, which would last till 1849, and by Congress for seven more, which would not expire till 1856, yet all of these patents were surrendered July 8th, 1845, and a new one taken out for the whole twenty-eight years from December, 1828. This was done, also, with some small amendments or corrections, in the old specification of 1828. After these new letters-patent for the whole term, no assignment

an amended specification, after the expiration of the term for which the original patent was granted, and pending the existence of an extended term of seven years. Such surrender and renewal may be made at any time during such extended term.[1]

§ 185. Specifications may also be amended by another process, that of filing a disclaimer, whenever, through inadvertence, accident, or mistake, the original claim was too broad, claiming more than that of which the patentee was the original or first inventor, provided some material and substantial part of the thing patented is justly and truly his own. Such a disclaimer may be filed in the Patent Office by the patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest in the patent; and it

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having been made to Washburn and Brown, but only one previously on the 2d of January, 1843, the plaintiffs contend that, all the previous letters being surrendered, and a new specification filed, and new letters issued, any conveyance of any interest under the old letters is inoperative and void under the new ones; and hence that Washburn and Brown possess no interest in these last, and are improperly joined in the bill.

But my impression, as at present advised, is, that, when a patent has been surrendered, and new letters are taken out with an amended specification, the patent has been always considered to operate, except as to suits for violations committed before the amendment, from the commencement of the original term. The amendment is not because the former patent or specification was utterly void, as seems to be the argument, but was defective or doubtful in some particular, which it was expedient to make more clear. But it is still a patent for the same invention. It can by law include no new one, and it covers only the same term of time which the former patent and its extensions did.

In the present case, these are conceded to have been the facts; and it is an error to suppose that, on such facts, the new letters ought to operate only from their date. By the very words of those letters, no less than by the reasons of the case as just explained, they relate back to the commencement of the original term, and, for many purposes, should operate from that time."

[1] Wilson *v.* Rousseau, 4 Howard, 646. If a new patent, issued on a surrender of an old one, be void for any cause connected with the acts of pub-

will be thereafter taken and considered as part of the original specification, to the extent of the interest of the disclaimant in the patent, and by those claiming by or under him, subsequent to the record thereof.[1]

§ 186. Patents are sometimes extended by special Acts of Congress, passed upon the application of the patentees. But, by the Act of July 4th, 1836, c. 357, § 18, the Secretary of State, the Commissioner of the Patent Office, and the Solicitor of the Treasury were constituted a board of commissioners, to hear evidence for and against the extension prayed for, and to decide whether, having due regard to the public interest therein, it is just and proper that the term of the patent should be extended, because the patentee has failed to obtain a reasonable remuneration. The commissioners being satisfied that the patent ought to be renewed, it was made the duty of the Commissioner of Patents to make a certificate on the original patent, showing that it is extended for a further term of seven years from the expiration of the first term.

§ 187. But, by a very recent statute, this power is vested solely in the Commissioner of Patents, who is required to refer the application to the principal examiner, having charge of the class of inventions to which the case belongs, and, upon his report, to grant or refuse the patent, upon the same principles and rules that have governed the board provided by the former act.[2]

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lic officers, it is questionable whether the original patent must not be considered in force till its term had expired. Woodworth *v.* Hall, 1 Woodb. & Minot, 389.

[1] Act of Mar. 3, 1837, § 7. As to the effect of a disclaimer on actions, see the Chapter on REMEDY.

[2] Act of Cong. May 27, 1848, § 1. This act declares that no patent shall be extended for a longer term than seven years.

PART III.

TRANSMISSION OF THE INTEREST

IN

LETTERS-PATENT.

PART III.

TRANSMISSION OF THE INTEREST IN LETTERS-PATENT.

CHAPTER I.

OF ASSIGNMENTS AND LICENSES.

§ 188. The Act of Congress of July 4, 1836, § 11, provides "that every patent shall be assignable in law, either as to the whole interest, or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right under any patent, to make and use, and to grant to others to make and use, the thing patented, within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof, for which the assignee or grantee shall pay to the commissioner the sum of three dollars."

§ 189. The interest that is thus made assignable by statute, is undoubtedly assignable at common law. But it has been deemed proper to regulate the assignment of patents by statute. An invention may be assigned for the patent before it is taken out, so as to vest in the assignee the exclusive interest when the patent has issued; but the application must be made and the specification duly sworn to by the inventor, and the assignment must be recorded.[1] The interest in a patent

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[1] Act of Mar. 3, 1837, § 6. Herbert *v.* Adams, 4 Mas. 15; Dixon *v.*

may also be assigned by operation of law, in case of the bankruptcy of the patentee, as well as by his voluntary assignment. There is no question that a patent already obtained passes to assignees in bankruptcy; and, in England, it has been held that a patent issued after an act of bankruptcy and an assignment by the commissioners, but before the bankrupt had obtained his certificate, passes to the assignees.[1] It is necessary, however, that the intention should have been perfected, and, at least, that the bankrupt inventor should have applied for a patent. It was said, in the case just cited, that the schemes which a man has in his head, or the fruits which he may make of them do not pass; but if he has carried his schemes into effect, and thereby acquired a beneficial interest, that interest is of a nature to be affected by an assignment in bankruptcy. Under our system, I conceive that such an interest would have been acquired, after the application for a patent. The party has then done all that the law requires for the creation of the interest, and the issue of the patent

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Moyer, 4 Wash. 71, 72. So also, it has been held that a contract may be made to convey a future invention, as well as a past one, and for any improvement or maturing of a past one; and that a bill in equity will lie to compel a specific performance. Nesmith *v.* Calvert, 1 Woodb. & M. 34.

"An assignment of an invention before the issuing of a patent, is valid, under § 6 of the Act of March 3d, 1837, (5 U. S. Stat. at Large, 193,) although it is made after the rejection, by the Commissioner of Patents, of the assignor's application for a patent, and after an appeal thereon to the Chief Justice of the District of Columbia.

"The assignee under such an assignment may file a bill in his own name, under § 16 of the Act of July 4th, 1836, (5 U. S. Stat. at Large, 123,) and § 10 of the Act of March 3d, 1839, (Id. 354,) against the patentee to whom the patent was issued on the rejection of the assignor's application, for the purpose of annulling the patent issued, and having one granted to him as assignee.

"And it is not necessary that the assignment should be recorded in the Patent Office before the filing of the bill. It is enough, if it be recorded at any time before the issuing of the patent." Gay *v.* Cornell, in Equity, 1 Blatch. Ct. Court R. 506.

[1] Hesse *v.* Stevenson, 3 Bos. & P. 565.

furnishes him with the evidence of his exclusive right. Whether an invention perfected and reduced to practice, capable of supporting a patent, but for which no application had been made for a patent, at the time when the assignment in bankruptcy attaches to the bankrupt's effects, would pass to the assignees, is a more difficult question. The mere material in which the invention had been incorporated would undoubtedly pass, but this is distinguished from the invention itself, which has not become a vested interest under the Patent Law, until the proper application has been made by the proper party, who must be the inventor and no one else. It would seem that the assignees would not render themselves liable to an action for infringement, at the suit of the subsequent patentee, (the bankrupt,) for selling such materials, as in the case of a newly invented machine, patented after the property in the materials had passed to them;[1] but, whether the purchaser could thus acquire any right, as against the inventor, to use those materials in the shape of the invention, as intended to be used by the inventor, who had used due diligence in obtaining his patent, may admit of doubt.

§ 190. The statute renders it necessary to record the assignment in the Patent Office. Three classes or degrees of interest by assignment, and no others, are thus required to be recorded; *first*, an assignment of the whole patent; *second*, an assignment of an undivided part of the whole patent; and, *third*, a grant or conveyance of the exclusive right under the patent, for any part or specified portion of the United States. Assignments, of these several classes, must be recorded in the Patent Office, within three months of the execution thereof, to affect intermediate *bonâ fide* purchasers, without notice. But it has been held that, in other respects, the statute is merely directory, and that any subsequent recording will be sufficient to pass the title to the assignee.[2]

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[1] Sawin *v.* Guild, 1 Gallis. 485.

[2] Brooks *v.* Byam, 2 Story's R. 526; Pitts *v.* Whitman, Ib. 609, 614. In

§ 191. But the assignee can maintain no suit, in law or equity, upon the patent, either as a sole or as a joint plain-

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this last case, Mr. Justice Story said: — "The first objection taken upon the motion for a new trial is, that the deed of assignment from John A. Pitts to the plaintiff, dated on the 17th of April, 1838, was not recorded in the Patent Office until the 19th of April, 1841, after the present suit was commenced; whereas it ought to have been recorded within three months after the execution thereof. By the Patent Act of 1793, ch. 55, § 4, every assignment, when recorded in the office of the Secretary of State, was good to pass the title of the inventor, both as to right and responsibility; but no time whatever was prescribed, within which the assignment was required to be made. By the 11th section of the Act of 1836, ch. 357, it is provided, "That every patent shall be assignable in law, either as to the whole interest or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of an exclusive right under any patent, to make and use, and to grant to others to make and use, the thing patented, within and throughout any specified portion of the United States, shall be recorded in the Patent Office, within three months from the execution thereof." Now, it is observable, that there are no words in this enactment which declare that the assignment, if not recorded, shall be utterly void; and the question, therefore, is, whether it is to be construed as indispensable to the validity of an assignment, that it should be recorded within the three months, as a *sine qua non;* or whether the statute is merely directory for the protection of purchasers. Upon the best reflection which I have been able to bestow upon the subject, my opinion is, that the latter is the true interpretation and object of the provision. My reasons for this opinion are, the inconvenience and difficulty and mischiefs, which would arise upon any other construction. In the first place, it is difficult to say why, as between the patentee and the assignee, the assignment ought not to be held good as a subsisting contract and conveyance, although it is never recorded, by accident, or mistake, or design. Suppose the patentee has assigned his whole right to the assignee, for a full and adequate consideration, and the assignment is not recorded within the three months, and the assignee should make and use the patented machine afterwards; could the patentee maintain a suit against the assignee for such making or use, as a breach of the patent, as if he had never parted with his right? This would seem to be most inequitable and unjust; and yet, if the assignment became a nullity and utterly void, by the non-recording within the three months, it would seem to follow, as a legitimate consequence, that such a suit would be maintainable. So strong is the objection to such a conclusion, that the learned counsel for the defendant admitted, at the argument, that, as between

tiff, against third persons, until his assignment has been recorded, according to the requisitions of the statute.[1] For

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the patentee and the assignee, the assignment would be good, notwithstanding the omission to record it. If so, then it would seem difficult to see why the assignment ought not to be held equally valid against a mere wrongdoer, piratically invading the patent-right.

Let us take another case. Could the patentee maintain a suit against a mere wrongdoer after the assignment was made, and he had thereby parted with all his interest, if the assignment was not duly recorded? Certainly it must be conceded that he could not, if the assignment did not thereby become a mere nullity, but was valid as between himself and the assignee; for then there could accrue no damage to the patentee, and no infringement of his rights under the patent. Then, could the assignee, in such a case, maintain a suit for the infringement of his rights under the assignment? If he could not, then he would have rights without any remedy. Nay, as upon this supposition, neither the patentee nor the assignee could maintain any suit for an infringement of the patent, the patent-right itself would be utterly extinguished in point of law, for all transferable purposes. Again; could the assignee, in such a case, maintain a suit for a subsequent infringement against the patentee? If he could, then the patentee would be in a worse predicament than a mere wrongdoer. If he could not, then the assignment would become, in his hands, in a practical sense, worthless, as it would be open to depredations on all sides. On the contrary, if we construe the 10th section of the act to be merely directory, full effect is given to the apparent object of the provision, the protection of purchasers. Why should an assignment be required to be recorded at all? Certainly not for the benefit of the parties, or their privies; but solely for the protection of purchasers, who should become such, *bonâ fide*, for a valuable consideration, without notice of any prior assignment. By requiring the recording to be within three months, the act, in effect, allows that full period for the benefit of the assignee, without any imputation or impeachment of his title for *laches* in the intermediate time. If he fails to record the assignment within the three months, then every subsequent *bonâ fide* purchaser has a right to presume that no assignment has been made within that period. If the assignment has not been recorded until after the three months, a prior purchaser ought, upon the ground of *laches*, to be preferred to the assignee. If he purchases after the assignment has been recorded, although not within the three months, the purchaser may justly be postponed, upon the ground of *mala fides*, or constructive notice of the assignment. In this way, as it seems to me, the

[1] Wyeth v. Stone, 1 Story's R. 273.

the purposes of such a suit, however, it will be sufficient if the assignment is recorded at any time before the trial or hearing.[1]

§ 192. An assignment vests in the assignee an interest in the patent, indefeasible by act of the patentee, so that the patentee cannot, by a surrender of his patent, affect the rights of an assignee, to whom he has previously granted the whole or a part of the patent, without the consent of such assignee.[2] In fact, the statute which authorizes a surrender and reissue of a patent, on account of a defective specification, expressly saves the rights of assignees in the patent, by this clause; "and in case of his (the patentee's) death, or any assignment by him, made of the original patent, a similar right (that of surrender and reissue,) shall vest in his exe-

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true object of the provision is obtained, and no injustice is done to any party. In respect to mere wrongdoers, who have no pretence of right or title, it is difficult to see what ground of policy or principle there can be in giving them the benefit of the objection of the non-recording of the assignment. They violate the patent-right with their eyes open; and, as they choose to act *in fraudem legis*, it ought to be no defence, that they meant to defraud or injure the patentee, and not the assignee. Indeed, if the defence were maintainable, it would seem to be wholly immaterial whether they knew of the assignment or not.

In furtherance, then, of right and justice, and the apparent policy of the act, *ut res magis valeat quam pereat*, and in the absence of all language importing that the assignment, if unrecorded, shall be deemed void, I construe the provision as to recording to be merely directory, for the protection of *bonâ fide* purchasers without notice. And, assuming that the recording within the three months is not a prerequisite to the validity of the assignment, it seems to me immaterial (even admitting that a recording at some time is necessary,) that it is not made until after the suit is brought. It is like the common case of a deed required by law to be registered, on which the plaintiff founds his title, where it is sufficient, if it be registered before the trial, although after the suit is brought; for it is still admissible in evidence, as a deed duly registered." See, also, Boyd *v.* McAlpin, 3 McLean's R. 427.

[1] Pitts *v.* Whitman, *ut supra.*

[2] Woodworth *v.* Stone, 3 Story's R. 749, 750.

cutors, administrators, or assignees."[1] Strictly, therefore, an assignee should be a party to the surrender; but if he is not, and the surrender is made by the patentee, and the patent is reissued to him, it seems that assignments, made before the surrender, are not vacated, but the patent remains the same, in contemplation of law, and the interests of assignees remain the same, without any new assignment.[2]

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[1] Act of 1836, § 13.

[2] Woodworth *v.* Hall, 1 Woodbury & Minot, 248, 256. "The original patent for fourteen years, given in December, 1828, expired in 1842, and though it was extended by the board for seven years more, which would last till 1849, and by Congress for seven more, which would not expire till 1856, yet all of these patents were surrendered July 8th, 1845, and a new one taken out for the whole twenty-eight years, from December, 1828. This was done, also, with some small amendments or corrections, in the old specification of 1828. After these new letters-patent for the whole term, no assignment having been made to Washburn and Brown, but only one previously, on the 2d of January, 1843, the plaintiffs contend that, all the previous letters being surrendered, and a new specification filed, and new letters issued, any conveyance of any interest under the old letters is inoperative and void under the new ones; and, hence, that Washburn and Brown possess no interest in these last, and are improperly joined in the bill.

But my impression, as at present advised, is, that, when a patent has been surrendered, and new letters are taken out with an amended specification, the patent has been always considered to operate, except as to suits for violations committed before the amendment, from the commencement of the original term. The amendment is not because the former patent or specification was utterly void, as seems to be the argument, but was defective or doubtful in some particular, which it was expedient to make more clear. But it is still a patent for the same invention. It can, by law, include no new one, and it covers only the same term of time which the former patent and its extensions did. In the present case, these are conceded to have been the facts, and it is an error to suppose that, on such facts, the new letters ought to operate only from their date. By the very words of those letters, no less than by the reasons of the case, as just explained, they relate back to the commencement of the original term, and, for many purposes, should operate from that time. I do not say for all, as an exception will hereafter be noticed. This is in strict analogy to amended writs and amended judg-

§ 193. *A fortiori*, if the assignee of a patent has consented to the surrender, although he is not a party on the record of

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ments, which, for most purposes, have the same effect as if the amended matter was in them originally.

Again; if such were not the result generally, the new letters would be treated as taking out a new patent, or an old one in a form then first valid; and, in such a view, would, of course, run fourteen years from the date of the new letters, instead of only fourteen from the issue of the original letters; or, if they had been extended, as here, fourteen longer, they would not run only twenty-eight years from the beginning of the original term, that is, December, 1828, as here, but twenty-eight years from July, 1845, the date of the new letters.

Besides these considerations, it has been held that recoveries, under the original patent, are evidence, after the new letters and new specification, to strengthen the title of the plaintiff, so as to obtain an injunction; thus treating the patent as one and the same; and the conveyance of it once, therefore, for a specified term, as good for the term, whether an amended specification be filed or not before the term closes. See Orr *v.* Littlefield, 1 Woodb. & M. 13. Also Orr *v.* Badger, before Justice Sprague, February, 1845.

It would be a little strange that a recovery, under the new and amended and corrected specification, should be, as is another argument for the defendant, any stronger evidence of right than a recovery, even when the specification was more objectionable. Independent of these circumstances, it is averred in the bill, as amended, that Washburn and Brown have adopted and approved of the new specification; and that they claim, under their contract, and to the extent of it, all the rights conferred by it on the patentee. There is, moreover, a clause in the Act of July 4, 1836, ch. 357, § 13, which seems to have been designed to dispose of such objections; and, though it does not mention contracts or assignments, it is quite broad and comprehensive enough to cover them. It is: — "The patent, so reissued, together with the corrected descriptions and specifications, shall have the same *effect and operation in law*, on the trial of all actions hereafter commenced for causes subsequently occurring, as though the same had been originally filed in such corrected form, before the issuing of the original patent."

It would be very doubtful, also, whether a misjoinder of parties, as plaintiffs in an application of this kind, could defeat a prayer for an injunction not to use a machine in which any of them were interested. At law, such a misjoinder could be objected to only in abatement, as the act sounds *ex delicto*, (1 Ch. Pl. 75); and, probably, it could not be objected to at all

the application at the Patent Office, it enures to his benefit and becomes his act, and he is properly made a party in any suits brought for infringement, within the territory covered by the assignment.[1] But the assignee or grantee, under the original patent, does not acquire any right under the extended patent, which may be obtained pursuant to the 18th section of the Act of 1836, unless such right be expressly conveyed to him by the patentee.[2] But assignees, who were in the use of a patented machine at the time of the renewal, have still a right to use *the machine*, under the clause of the statute which declares that "the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein."[3]

§ 194. When a disclaimer is to be filed, under the 7th and 9th sections of the Act of 1837, an assignee of the whole patent will be the proper party to file it; and, if the patent has been previously assigned in part, it has been held that the disclaimer will not operate to the benefit of such an assignee, in any suit by him, at law or in equity, unless he joined in the disclaimer.[4]

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in equity, though in the final judgment, of course, it would be entered up in favor of those alone who appeared to have some right and interest to be protected.

As the claims of two of the plaintiffs, however, have been already proved and established, in several recoveries, before the new letters; and the contract now offered, under which they claim, confers on them a right to use fifty planing machines within certain territory, including this city; and there is a covenant, by the grantees of that right, not to sell to different persons liberty to use others within those limits, during the time of Washburn and Brown's contract, their interest within them would seem to be sufficiently exclusive to make them properly plaintiffs, and entitled to judgment."

[1] Woodworth *v.* Stone, 3 Story's R. 749.

[2] Woodworth *v.* Sherman, 3 Story's R. 171; Wilson *v.* Rousseau, 4 Howard, 646.

[3] Wilson *v.* Rousseau, *ut supra.*

[4] Wyeth *v.* Stone, 1 Story's R. 273.

§ 195. The distinction between an assignment and a license relates to the interest in the patent, as distinguished from the right to use the thing patented, or to practise the invention. An assignment is a grant in writing of the whole or a part of the exclusive right vested in the patentee by the patent; and such a part may be designated as an undivided part of the whole patent, extending wherever the patent extends, or as a grant of the exclusive right within a particular district. Each of these grants may carry with it the right to grant to others the power of making and using the thing patented, and in no degree diminishes the right of the patentee; it does not, *per se*, carry the right to grant to others the power of exercising the invention, although it may involve the right of selling the specific thing made, with the incidental right of using it. Thus, when the patentee sells to another a patented machine, made by himself, or permits such person to make the machine, the party thus authorized becomes a licensee, with the right of selling the machine, which carries with it the right of using it. But that party has no interest in the patent; he cannot authorize others to make the machine; nor does the permission extended to him diminish, in any degree, the exclusive right of the patentee to make, or to authorize others to make, the patented machine. So, where the subject of the patent is a compound or composition of matter, if the patentee authorizes another to make and sell the article, that party becomes a licensee, with the right of selling the article he may make to others, to be used by them, in the way of consumption, for the purposes for which it is intended, but he has no interest in the patent, and no power to grant to others any portion of the exclusive right of making the thing, which is vested in the patentee.[1]

§ 196. Upon this distinction, it may often be necessary to

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[1] Brooks *v.* Byam, 2 Story's R. 525, 538, 539, 542. In this case, Mr. Justice Story held that the true construction of the statute is, that a license is not required to be recorded.

determine whether a particular instrument amounts to an assignment, or only to a license. Our statute seems to assume and proceed upon the clear distinction, that every grant which embraces the exclusive right under the patent, either as to a part or the whole, is an assignment; and it requires such grants to be recorded. The test to be applied, therefore, is, whether the instrument vests in the grantee the exclusive right, either for the whole country, or for a particular district, of making and using the thing patented, and of granting that right to others.[1] If it does so, it is an assignment. But, if it merely grants a right to make, use, and sell the thing patented, whether in limited or unlimited quantities, without making that right exclusive, it is a license.[2] Thus, where the patentee granted "the right and privilege of making, using, and selling the friction matches," being the thing patented, and the right "to employ in and about the manufacture, six persons, and no more, and to vend said matches in any part of the United States," with a proviso that nothing herein contained should prevent or restrict the patentee from "making and vending the same, or of selling and conveying similar rights and privileges to others," with a further proviso that the grantee "shall not manufacture the said matches in any place within forty miles of M.;" it was held that this was a license or authority to make and vend the matches, without any exclusive right of making them, and, consequently, did not require to be recorded under the statute.[3] The same would be true of a grant to make and use a certain number

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[1] If an assignment is of the entire and unqualified interest, the assignee may sue in his own name; otherwise the suit must be in the name of the assignor. Gayler *v.* Wilder, 10 Howard, 477.

[2] An agreement that the assignee might make and vend the article patented, within certain specified limits, upon paying to the assignor a cent per pound, reserving, however, to the assignor the right to establish a manufactory of the article upon paying to the assignee a cent per pound, was only a license, and a suit for an infringement must be in the name of the assignor. Gayler *v.* Wilder, 10 Howard, 477.

[3] Brooks *v.* Byam, *ut supra*.

of patented machines, in a particular place; but if the covenant were, that the grantee might make and use ten machines, and that he should have the exclusive right of making and using the machines in a particular district, limiting him to ten, it seems that it would be an assignment, provided the grantee were authorized to grant to others the right to make and use any of the ten machines.[1] In such a case as this, the patentee would have limited the exercise of his own privilege to ten machines, and would have granted the whole of his privilege, as he had seen fit to limit it, to the grantee, who would thus have acquired an interest in the patent. But if the parties to such an instrument were mutually to agree to open the subject of the contract again, the patentee might enlarge the exclusive privilege indefinitely, as to the quantity of machines; but the relations of the parties would still be those of assignor and assignee, as long as the exclusive right should be vested in the grantee.

§ 197. Still, if the grant of an exclusive right to work under the patent appears, upon the tenor of the whole instrument, to have been intended by the parties to operate as a license and not as an assignment, it seems that it should be so construed; and such an intention will be evinced by provisos for determining the license, and by the reservation of a rent or per centage on the gross sales or manufactures, instead of granting an interest in the profits of working the patent.[2] But whether such an instrument, conferring the

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[1] Woodworth *v.* Wilson, 4 How. 712.

[2] Protheroe *v.* May, Webs. Pat. Cas. 415. In this case, the Court of Exchequer, upon a case sent for their opinion by the Vice-Chancellor, gave a decided opinion that an exclusive license is no more than a common license; and so it seems to be regarded by our statute, which does not treat the grant as an assignment, requiring to be recorded, unless there is added to the exclusive right of making and using, the right to grant to others to make and use the thing patented. The case of Woodworth *v.* Wilson, 4 How. 712, contains an instrument granting the exclusive right to make and use ten machines in a particular district. The instrument is in form a license for the

exclusive right for a particular district, would amount to an assignment, under our statute, or to such a grant as requires to be recorded, will further depend, it would seem, upon the fact of there being a right vested in the grantee to grant to others the "right to make and use the thing patented."

§ 198. Whether a license is assignable, must depend upon its terms. A mere license to the party, without mentioning his *assigns*, is, of course, nothing more than the grant of a power, or the dispensation with a right or remedy, and confers a personal right upon the licensee, which is not transmissible to any other person. It seems, however, that the use of the word *assigns*, in the granting part of such an instrument, will not necessarily operate to make a license assignable, when, from the tenor of the whole instrument, it appears to have been intended as a personal privilege.[1] But, whether a license is assignable or not, as to the entirety of the privilege, it is still more questionable whether it is apportionable, so as to permit the licensee to grant rights to others to work the patent, by subdividing the rights that may have been granted to himself. This question arose in a case already referred to, where the patentee of friction matches granted to another party the right to make, use, and sell the friction matches, and "to have and to hold the right and privilege of manufacturing the said matches, and to *employ in and about the same six persons*, and no more, and to vend the said matches in the United States." The licensee afterwards undertook to sell

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gross sum of fifteen hundred dollars. The point did not arise whether it ought to have been recorded, nor does the fact appear whether it had been recorded. The question was, whether the patentee still retained such an interest as to render him a proper party to a bill in equity with the grantee, brought in the district to which the grant related. The court held that the patentee was properly joined in the suit. There was no grant of the right to grant to others to make and use; but merely a grant authorizing the grantee to "construct and use" ten machines within, &c. This instrument, therefore, I conceive to have been a license, not necessary to be recorded.

[1] Brooks *v.* Byam, 2 Story's R. 525, 544.

and convey to a third person "a right of manufacturing friction matches, according to letters-patent, &c., in said town of A., to the amount of *one right*, embracing one person only, so denominated, in as full and ample a manner to the extension (extent) of the said one right, as the original patentee." Mr. Justice Story held that every conveyance of this sort must be construed according to its own terms and objects, in order to ascertain the true intent and meaning of the parties; and that, in this case, the interest under the license was an entirety, incapable of being split up into distinct rights, each of which could be assigned to different persons in severalty.[1]

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[1] Brooks *v.* Byam, 2 Story's R. 525, 543. The reasoning of the learned judge was as follows: "The other question, as to the indivisibility of the license granted to Brown, involves considerations of more nicety and difficulty. By the agreement between Brown and Brooks, 18th of September, 1837, it was agreed by Brown to sell and convey unto Brooks "a right of manufacturing friction matches, according to letters-patent granted to Phillips, &c., in the said town of Ashburnham, *to the amount of one right*, embracing one person only, so denominated, in as full and ample a manner to the extension of the said one right, as the original patentee;" and Brown further agrees "to go to Ashburnham and assist Brooks in learning the art and mystery of manufacturing such friction matches, &c., &c.;" and, also, "not to sell any right of manufacturing said friction matches, or of vending the same to any person living, or intending to live, to manufacture, or vend said matches, within forty miles of said Ashburnham." The question, then, is, whether the license or privilege granted by the patentee to Brown is not an entirety, and incapable of being split up into distinct rights, each of which might be assigned to different persons in severalty. I do not meddle with another point, and that is, whether the entirety of the license or privilege to Brown was capable of being assigned, though, if it were intended to be a personal privilege or license, it might open a ground for argument, notwithstanding the use of the word "assigns." That point does not arise in the present case; for here the whole license or privilege is not sold or assigned; but one right, embracing one person only. It has been well said, that the right or license may be transmissible, though not apportionable. There is some obscurity in the language of the instrument, which makes it somewhat difficult to give a definite interpretation to it. Brown's privilege or license is, at most, to himself and his assigns, and "to employ in and about the manufacturing of the matches six persons, and no more." Brown agrees to sell to Brooks "one right, embracing one person." Now the privilege or

§ 199. The relations of the patentee and the licensee, with regard to the validity and extent of the patent, must depend on the terms of the license. The taking of a naked license or permission to work under a patent, does not, without some recitals or covenants amounting to an admission, estop the licensee from denying the validity of the patent, or the fact of infringement, if he is subsequently proceeded against. It is necessary to look into the instrument, and to ascertain

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license to Brown, (assuming it to be capable of assignment,) is to him and to his assigns, to employ six persons. Whoever is employed is to be employed by Brown and his assigns. It would seem to be a reasonable interpretation of this language to say, that all of these persons should be employed by one and the same party, either all by Brown, or all by his assigns. But the sub-agreement with Brooks conveys to him one right in severalty, embracing one person; that is, (as I understand it,) the right to employ one person in the manufacture of the matches. So that, if this agreement be valid, then the original privilege or license, granted by the patentee to Brown upon this construction, includes six distinct and independent rights, each of which may be granted to a different person in severalty. Now I must confess, that such a construction is open to all the objections stated at the bar. It exposes the patentee to the competition of six different distinct persons, acting in severalty, and independently of each other. It may make an essential difference to the patentee in his own sales, whether the whole of the right or privilege granted to Brown be in the possession of one or more persons, having a joint interest, and of several persons, each having a separate and independent interest. The danger, too, to the patentee, of an abuse or excess of the right or privilege granted by him, is materially enhanced by the circumstance, that each of the sub-holders may be acting at different places, at the same time, and the nature and extent of their claim and use of the right or privilege may be difficult for him to ascertain, and leave him without any adequate remedy for any such excess or abuse of it. The language ought, in my judgment, to be exceedingly clear, that should lead a court to construe an instrument of this sort, granting a single right or privilege to a particular person or his assigns, as also granting a right or license to split up the same right into fragments among many persons in severalty, and thus to make it apportionable as well as transmissible. The patentee might well agree to convey a single right as an entirety to one person, to manufacture the matches and employ a fixed number of persons under him, when he might be wholly opposed to apportioning the same right in severalty among many persons."

what recitals and covenants will deprive a licensee of the defence to which all other persons may resort. If, by his agreement, the licensee has admitted that the process or thing which he uses is the patented process or thing, and he is afterwards proceeded against for not complying with the terms of his agreement, it seems that he will not be at liberty to show, that he did not use the patented thing or process.[1] So, too, if the deed contain recitals or statements amounting to an admission of the validity of the patent, either as to the novelty or utility of the supposed invention, or the sufficiency of the specification, the licensee will be estopped, in an action of covenant for the rent or license dues, to deny the validity of the patent, by setting up any thing contrary to the admissions in his deed.[2] In like manner, it has been held that a licensee, who has paid an annuity in consideration of a license to use a patent privilege, which he has had the benefit of, but which afterwards turns out to be void, cannot recover back the money he has paid, in an action for money had and received.[3] This is upon the ground that the licensee has had the benefit of what he stipulated for; but, if the patent turns out to be invalid, before a payment becomes due, and the license deed contains no admission of its validity, the licensee may plead the fact in answer to an action of covenant for money reserved by the license.[4]

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[1] Baird *v.* Neilson, 8 Cl. & Fin. 726.

[2] Bowman *v.* Taylor, 2 Ad. & E. 278. But if the patentee join issue upon an allegation made by a licensee contrary to an admission in his deed, instead of pleading the estoppel, the deed will be evidence for the patentee, but will not as evidence be conclusive. Bowman *v.* Rostrom, 2 Ad. & E. 295.

[3] Taylor *v.* Hare, 1 N. R. 260.

[4] Hayne *v.* Maltby, 3 T. R. 438. This case was thus explained by Lord Cottenham, C., in Neilson *v.* Fothergill, Webs. Pat. Cas. 290. "The case of Hayne *v.* Maltby appears to me to come to this, that, although a party has dealt with the patentee and has carried on business, yet that he may stop, and then the party who claims to be patentee cannot recover, without giving the other party the opportunity of disputing his right, and that, if the defendant successfully dispute his right, that, notwithstanding he has been dealing under a contract, it is competent to the defendant so to do. That is

§ 200. And where there has been no enjoyment by the licensee, who, in an agreement not under seal, has stipulated to pay a certain sum for the right to use a patent privilege, the invalidity of the patent will be a good plea in bar to an action upon the agreement, on the ground of failure of consideration.[1] The competency of a licensee to dispute the validity of a patent, is a question which may also arise, where the licensee is proceeded against for an infringement, on the ground that he is using the patent contrary to the conditions in his license. If, for instance, a party receives a license to use a patented machine, on condition that he pay a stipulated sum on all the articles which he may manufacture by means of the machine, and, after having been put in possession of the machine, he uses it, but refuses to pay the rent or license dues, or to comply with any other condition, he may be enjoined in equity for an infringement. The sole right which such a party can have to use the machine depends on the license; and he can use under the license only by complying with the conditions; so that his use aside from the license is an infringement.[2] If, in such a case, the licensee refuses to pay under the license, or sets up, as a reason for not performing any of his covenants, that the patentee has not complied with the terms of the contract on his part, will the licensee be permitted to question the validity of the patent, in any proceeding either at law or in equity, for using the patent without right? This must depend, in the first place, upon the admissions in the license deed. If the deed

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exactly coming to the point which I put, whether, at law, the party was estopped from disputing the patentee's right, after having once dealt with him as the proprietor of that right; and it appears from the authority of that case, and from the other cases, that, from the time of the last payment, if the manufacturer can successfully resist the patent-right of the party claiming the rent, that he may do so in answer to an action for the rent for the use of the patent during that year."

[1] Chanter *v.* Leese, 4 M. & W. 295, affirmed in error, 5 M. & W. 698.

[2] Brooks *v.* Stolley, 1 M'Lean's R. 523; Neilson *v.* Fothergill, Webs. Pat. Cas. 287, 290.

contains no admission of the plaintiff's title, then the licensee will not be estopped from denying it; but, if it contains such admissions, and, *à fortiori*, if, after such admissions, the licensee has worked under the license, and has paid the license dues before his refusal, or, if he still continues to claim under the deed, and excuses his non-payment by reason of the non-performance of some covenant on the part of the patentee, he will be estopped from denying the validity of the patent, and the sole question will be, whether he is liable for an infringement; which will depend upon the validity of his excuse for not paying, on account of the non-performance by the patentee.[1] But, in the second place, if the licensee repudiates the contract altogether, and stands upon the right of every man to use the alleged invention because it is not new, or because the patent is void for some other reason, he foregoes all benefit of the license as a permission to use the invention, and becomes a trespasser. In that event, I conceive that his solemn admission, under hand and seal, of the validity of the patent, may still be used against him as an estoppel, both in an action and under a bill in equity for the infringement, unless he can show that he was deceived and misled; otherwise, a party might obtain possession of the invention, under a license, and then repudiate the contract at his pleasure.

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[1] In equity, no alleged failure on the part of the patentee, under the contract of license, will authorize the use, unless the licensee does every thing in his power to perform the contract. Brooks *v.* Stolley, *ut supra*. If the license is granted on condition of a weekly payment, the payment must be made weekly, or the licensee may be enjoined for infringing. Ibid.

PART IV.

INFRINGEMENT,

AND

THE REMEDY THEREFOR.

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CHAPTER I.

INFRINGEMENT.

§ 201. The statute grants to the patentee, for a term not exceeding fourteen years, "the full and exclusive right and liberty of "making, using, and vending to others to be used, the invention or discovery;"[1] and it gives a right of action for damages, in case of "making, using, or selling" the thing patented.[2] No definition of what is to constitute an infringement is given in the statute; but, of course, there is an infringement of the right, when one "makes, uses, or sells a thing" which another has the exclusive right of "making, using, and vending to others to be used." But what constitutes making, using, and selling, with reference to the various things that may be the subjects of patents, so as to interfere with the exclusive right of the patentee, is left by the statute for judicial interpretation.

§ 202. An infringement takes place whenever a party avails himself of the invention of the patentee, without such

[1] Act of July 4, 1836, c. 357, § 5.
[2] Ibid. § 14.

variation as will constitute a new discovery;[1] or, as it has also been stated, an infringement is a copy made after and agreeing with the principle laid down in the specification.[2]

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[1] In Walton *v.* Potter, Webs. Pat. Cas. 585, 586, Sir N. C. Tindall, C. J., said to the jury: "Now, according to the general rule upon this subject, that is a mere question of fact and peculiarity for the consideration of a jury, and it will be for you to say, under the circumstances that have been brought in review before you, whether that which has been done by the defendants amounts to such an infringement or not. Where a party has obtained a patent for a new invention, or a discovery he has made by his own ingenuity, it is not in the power of any other person, simply by varying in form, or in immaterial circumstances, the nature or subject-matter of that discovery, to obtain either a patent for it himself, or to use it without the leave of the patentee, because that would be in effect and in substance an invasion of the right; and, therefore, what you have to look at upon the present occasion, is, not simply whether, in form or in circumstances, that may be more or less immaterial, that which has been done by the defendants varies from the specification of the plaintiff's patent, but to see whether, in reality, in substance, and in effect, the defendants have availed themselves of the plaintiff's invention, in order to make that fabric or to make that article which they have sold in the way of their trade; whether, in order to make that, they have availed themselves of the invention of the plaintiff. The course which the evidence has taken has made it not an immaterial, but, on the contrary, a very necessary inquiry for you, upon this first head of investigation, to determine whether the defendant's patent, which they have taken out, is, in effect, borrowed from the plaintiff's or not, because there can be no doubt whatever that all the defendants have done they have endeavored to clothe themselves with the right of doing, by taking out the subsequent patent of 1839. The only evidence of infringement we have had before us, is the purchase, at the manufactory of the defendants, of that little piece of card which was marked with the initials S. G., and there can be no doubt but that that fabric, which was so produced in evidence before us, is made on the plan and according to the specification of their own patent, and, therefore, it will not be immaterial to call to your attention, upon this first head of inquiry, the specification of the plaintiff's, and next that of the defendant's patent, in order that we may compare them together, and see whether there really is that variation in substance, so as to give the denomination of a new discovery to what the defendants have done, or whether they are not following out the invention of the plaintiff, with some variation in the description, which may not allow it the name of a new discovery."

[2] Galloway *v.* Bleaden, Webs. Pat. Cas. 523.

There will be, therefore, different modes in which patents may be infringed, according to their subject-matter. Our statute has made use of the phrases "making, using, and vending to others to be used," to comprehend the exclusive right of the patentee; and, consequently, the making, using, or selling, are the modes in which that right may be infringed, according to the nature of the subject-matter. We are now, therefore, to consider the meaning of these phrases, as applied to the infringement of the several classes of things which may be the subjects of letters-patent.

§ 203. 1. *As to a machine.* — When a machine is the subject of a patent, the patent covers both the machine itself, the thing invented, and the mode or process of making it. The statute vests in the patentee the exclusive right of making it, the exclusive right of using it, and the exclusive right of vending it to others to be used. It is, therefore, an infringement to make a patented machine, for use or for sale, though in fact it is neither used nor sold;[1] it is an infringement to use

[1] Whittemore *v.* Cutter, 1 Gallis. 429, 433. In this case, Mr. Justice Story said: "Another objection is to the direction, that the making of a machine fit for use, and with a design to use it for profit, was an infringement of the patent-right, for which an action was given by the statute. This limitation of the making was certainly favorable to the defendant, and it was adopted by the Court, from the consideration that it never could have been the intention of the legislature to punish a man who constructed such a machine merely for philosophical experiments, or for the purpose of ascertaining the sufficiency of the machine to produce its described effects. It is now contended by the defendant's counsel, that the making of a machine is, under no circumstances, an infringement of the patent. The first section of the Act of 1793, expressly gives to the patentee, &c., "the full and exclusive right and liberty of making, constructing, using, and vending to others to be used," the invention or discovery. The fifth section of the same Act gives an action against any person who "shall make, devise, and use *or* sell," the same. From some doubt, whether the language of the section did not couple the making and *using* together to constitute an offence, so that making without using, or using without making, was not an infringement, the legislature saw fit to repeal that section; and, by the third section of the Act of 17th April, 1800, ch. 25, gave the action against any person, who should

it, though made by another; and it is an infringement to sell it, whether made by one's self or by another; because the statute vests the exclusive right of doing all these things in the patentee.

§ 204. The doctrine suggested by Mr. Justice Story, that the making of a machine for philosophical experiment, or for the purpose of ascertaining its sufficiency to produce the described effect, would not be an infringement, is founded in the supposition that such a making is not injurious to the patentee. It is true, that the making for the purpose of using becomes directly injurious to the patentee, because it deprives him of a purchaser of that which he alone is authorized to construct and sell; and it is also true, that, when the machine is made by one not the patentee, for the mere purpose of experimenting on the sufficiency of the specification, no profits are taken away from the patentee. There is, therefore, a difference, undoubtedly, in the tendency of the two acts; but it is not quite clear, that the legislature meant to recog-

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"make, devise, use or sell" the invention. We are not called upon to examine the correctness of the original doubt, but the very change in the structure of the sentence affords a strong presumption, that the legislature intended to make every one of the enumerated acts a substantive ground of action. It is argued, however, that the words are to be construed distributively, and that "making" is meant to be applied to the case of a *composition* of matter, and not to the case of a machine. That it is clear, that the use of certain compositions, (as patented pills,) could not be an infringement, and, unless making were so, there would be no remedy in such cases. We cannot feel the force of this distinction. The word "making" is equally as applicable to machines, as to compositions of matter; and we see no difficulty in holding that the using or vending of a patented composition is a violation of the right of the proprietor. It is further argued, that the making of a machine cannot be an offence, because no action lies, except for *actual damage*, and there can be no actual damages, or even a rule for damages, for an infringement by making a machine. We are, however, of the opinion, that, where the law gives an action for a particular act, the doing of that act imports of itself a damage to the party. Every violation of a right imports some damage, and, if none other be proved, the law allows a nominal damage."

nize this difference, or that they used the words "make, use," &c., in any other than their ordinary sense. The prohibition is express, that no other person shall "make"; and that no other person shall "use"; and Mr. Justice Washington held, that the motive of testing the practical utility of a machine was no answer to a charge of infringement by having "used" it.[1] But it was held by Mr. Justice Story, that the making of a patented machine is an infringement only when it is made for use or for sale, and the doctrine seems to be the same in England.[2] The test is, whether the party made the machine with an intent to infringe the patent-right, and deprive the owner of the lawful rewards of his discovery.[3]

§ 205. It is said that there may be a constructive using of a patented machine; as, if a person were to make a machine, in violation of the right of the patentee, or purchase it of one who had so made it, and then hire it out to another person for use, he might, under some circumstances, be held responsible for using it. There is a case, where the plaintiff was the patentee of a machine for making watch-chains, and it appeared that the defendant had made an agreement with one C., to purchase of him all the watch-chains, not exceeding five gross a week, which C. might be able to manufacture within six months, and C. had agreed to devote his whole time and attention to the manufacture of watch-chains, and not to sell or dispose of any of them, so as to interfere with the exclusive privilege secured to the defendant of purchasing the whole quantity which it might be practicable for C. to make;

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[1] Watson *v.* Bladen, 4 Wash. 588.

[2] In Jones *v.* Pearce, Webs. Pat. Cas. 125, Patteson, J., said, in reply to a question by the jury whether there was any evidence of the defendant having used or sold the wheels: — "The terms of the patent are, 'without leave or license make,' &c.; now if he did actually make these wheels, his making them would be a sufficient infringement of the patent, unless he merely made them for his own amusement, or as a model."

[3] Sawin *v.* Guild, 1 Gallis. 485, 487.

and it was proved that the machine used by C., with the knowledge and consent of the defendant, in the manufacture, was the same with that invented by the plaintiff, and that all the watch-chains thus made by C. were delivered to the defendant according to the contract; the Supreme Court of the United States held, that, if the contract were real and not colorable, and if the defendant had no other connection with C. than that which grew out of the contract, it did not amount to a "using" by him of the plaintiff's machine; but that such a contract, connected with evidence from which the jury might legally infer, either that the machine which was to be employed in the manufacture of the patented article was owned wholly or in part by the defendant, or that it was hired by the defendant for six months, under color of a sale of the articles to be manufactured with it, and with intent to invade the plaintiff's patent-right, would amount to a breach of his right.[1]

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[1] Keplinger *v.* De Young, 10 Wheaton, 358, 363. Washington, J., delivering the judgment of the Court, said: "The only question which is presented by the bill of exceptions to the consideration of this Court is, whether the Court below erred in the instruction given to the jury; and this must depend upon the correct construction of the third section of the Act of Congress, of the 17th of April, 1800, ch. 179, which enacts 'that, where any patent shall be granted, pursuant to the Act of the 21st of February, 1793, ch. 156, and any person, without the consent of the patentee, his executors, &c., first obtained in writing, shall make, devise, use, or sell, the thing whereof the exclusive right is secured to the said patentee by such patent, such person, so offending, shall forfeit and pay to the said patentee, a sum equal to three times the actual damage sustained by such patentee,' &c.

The contract, taken in connection with the whole of the evidence stated in the bill of exceptions, if the same were believed by the jury, formed most certainly a strong case against the defendant, sufficient to have warranted the jury in inferring, either that the machine which was to be employed in the manufacture of watch-chains, was owned in whole or in part by the defendant, or that it was hired to the defendant for six months, under color of a sale of the articles which might be manufactured with it, and with intent to invade the plaintiff's patent-right. Whether the contract, taken in connection with the whole of the evidence, does or does not amount to a hiring by the defendant of the machine, or the use of it for six months, is a point

§ 206. It seems to be in accordance with the doctrine of this case, to consider that a using of a machine is to be taken

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which is not to be considered as being decided either way by the Court. The bill of exceptions does not call for an opinion upon it.

But the contract, taken by itself, amounted to no more than an agreement by the defendant to purchase, at a fixed price, all the watch-chains not exceeding five gross a week, which Hatch and Kirkner might be able to manufacture in the course of six months, with any machine they might choose to employ; and an agreement, on the part of Hatch and Kirkner, to devote their whole time and attention to the manufacture of the chains, and not to sell or dispose of any of them, so as to interfere with the exclusive privilege secured to the defendant, of purchasing the whole quantity which it might be practicable for them to make.

If this contract was real, and not colorable, which is the obvious meaning of the instruction, and the defendant had no other connection with H. & K., in regard to these chains, than what grew out of it, it would, in the opinion of the Court, be an extravagant construction of the Patent Law, to pronounce that it amounted to a breach of the plaintiff's patent-right, by fixing upon the defendant the charge of having used the plaintiff's machine. Such a construction would be highly inconvenient and unjust to the rest of the community, since it might subject any man, who might innocently contract with a manufacturer to purchase all the articles which he might be able to make within a limited period, to the heavy penalty inflicted by the act, although he might have been ignorant of the plaintiff's patent, or that a violation of it would be the necessary consequence of the contract. It might possibly extend farther, and affect contracts express or implied, though of a more limited character, but equally innocent, as to which, however, it is not the intention of the Court to express any opinion, as this case does not call for it.

This cause was argued by the plaintiff's counsel, as if the opinion of the Court below had been given upon the whole of the evidence. But this was not the case. No instruction was asked for but by the defendant's counsel, and that was confined to a single part of the case, the connection between the defendant and H. & K., in regard to the watch-chains which the latter bound themselves, by their contract, to manufacture and deliver to the former. If the jury had been of opinion, upon the whole of the evidence, that the contract was not a real one, or that that instrument did not constitute the sole connection between those parties, or that the transaction was merely colorable, with a view to evade the law, the jury were not precluded by the instruction from considering the plaintiff's patent-right as violated, and finding a verdict accordingly.

Had the plaintiff's counsel thought proper to call upon the Court for an

as proved, either when the party charged has used it himself, or has employed others to use it for him, or has profited by the use of it.[1]

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opinion and instruction to the jury, upon any points arising out of the whole, or any part of the evidence, it would have been their duty to give an opinion upon such points, leaving the conclusion of fact from the evidence to be drawn by the jury. But this course not having been pursued, this Court can take no notice of the evidence, although spread upon the record, except so far as it is connected with the single point upon which the opinion, which is excepted to, was given. As to the residue of that opinion, that 'the legal aspect of the case would not be changed, although the defendant might, on any occasion, have supplied, at the cost of H. & K., the wire from which the chains so manufactured were made,' it is quite as free from objection as the preceding part of it, since it stands on precisely the same principle."

[1] Woodworth *v.* Hall, 1 Woodb. & M. 248, 251. In this case, Mr. Justice Woodbury said: — "There has been no evidence whatever offered in this case, of any use of the planing machine by Isaac Hall, since his license expired, except what is contained in the affidavit of Aaron Pratt. This witness did not see him use it; but made a bargain with him, about the 15th of July, 1845, to plane for the witness certain boards, at the ordinary price, intending to set off the amount against rent due from said Isaac.

Clement Hall, however, was present, and said, 'We can plane them for you,' and the work was done; but the witness does not say by whom, nor whether, in fact, the compensation for it was made to Isaac.

Against this is the answer of Isaac, responsive to the bill, and sworn to, denying that he had ever used the machine since his license expired; and this agrees with Clement's assertion in his answer, that the machine was used by him alone. The facts testified by Pratt might, standing alone, be sufficient to justify an inference, that Isaac had placed the boards and used the machine.

In such cases, it may be, that any workman on the machine, though not interested in it, is liable to be restrained, in order to prevent evasions, by treating all as principals who are aiding.

It is a common case, also, that, if one does not in person perform the work, but procures another to do it for his advantage, on a machine owned by himself, he can still be restrained, and is estopped from denying; *qui facit per alium, facit per se*. Possibly, too, if one hires another to do work on such a machine, he may be restrained. 4 Mann. & Grang. 179. But it is not necessary to give a decisive opinion on this, after comparing the evidence with the denial in Isaac's sworn answer.

After that answer, thus testified to as true, the probability is, and it is a

§ 207. As to the sale of a patented machine, in order to be an infringement of the right, it must be something more than a sale of the materials, either separate or combined; it must be a sale of a complete machine, for use as a machine, which is patented, in order to render the vendor liable for an infringement of the patent by a "sale."[1]

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construction not inconsistent with the veracity of both Pratt and Isaac, that the boards were planed by Clement alone, and on his own contract, or his own assent to the arrangement, and for his own profit. It would seem, also, very easy to produce further evidence of the fact of Isaac's using the machine, or receiving the profits from it, if such was the truth. Until it is produced, the fairest construction of the affidavits and answer are, that Isaac did not work the machine, or profit by it. If this construction were not the most reasonable, and did not reconcile what is sworn to in the affidavit and answers, the Court would still be compelled to refuse to issue an injunction against Isaac, on the affidavit of Pratt alone, for the want of evidence in it to overcome Isaac's answer. Because something more must be produced than the evidence of a single witness, to overcome an answer under oath, and responsive to the bill. Carpenter *v.* Prov. Wash. Ins. Co. 4 How. 185. Certainly, something more than the evidence of one witness, and he not testifying explicitly that Isaac either owned or worked the machine, or received any of its profits.

But, in respect to the liability of Clement to an injunction, the testimony is very different; and, notwithstanding the several ingenious objections that have been urged, I have come to the conclusion that one ought to be issued against him."

[1] A sale of the materials of a patented machine, by a sheriff, on execution, is not an infringement. Sawin *v.* Guild, 1 Gallis. 485. In this case, Mr. Justice Story said: — "This is an action on the case, for the infringement of a patent-right of the plaintiffs, obtained in February, 1811, for a machine for cutting brad nails. From the statement of facts agreed by the parties, it appears that the defendant is a deputy-sheriff of the county of *Norfolk*, and, having an execution in his hands against the plaintiffs, for the sum of $567.27, debt and costs, by virtue of his office, seized and sold, on said execution, the *materials* of three of said patented machines, which were, at the time, complete and fit for operation, and belonged to the plaintiffs. The purchaser, at the sheriff's sale, has not, at any time since, put either of the said machines into operation; and the whole infringement of the patent consists in the seizure and sale by the defendant, as aforesaid. The question submitted to the Court is, whether the complete materials, of which a patented

§ 208. The sale of the articles produced by a patented

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machine is composed, can, while such machine is in operation by the legal owner, be seized and sold on an execution against him.

The plaintiffs contend, that it cannot be so seized and sold, and they rely on the language of the third section of the Act of the 17th of April, 1800, ch. 25, which declares, that, if 'any person, without the consent of the patentee, his or her executors, &c., first obtained in writing, shall make, devise, use, or *sell* the thing, whereof the exclusive right is secured to the said patentee, such person, so offending, shall forfeit,' &c.

It is a sound rule of law, that every statute is to have a sensible construction; and its language is not to be interpreted so as to introduce public mischiefs, or manifest incongruities, unless the conclusion be unavoidable. If the plaintiffs are right in their construction of the section above stated, it is practicable for a party to lock up his whole property, however great, from the grasp of his creditors, by investing it in profitable patented machines. This would, undoubtedly, be a great public mischief, and against the whole policy of the law, as to the levy of personal property in execution. And, upon the same construction, this consequence would follow, that every part of the materials of the machine might, when separated, be seized in execution, and yet the whole could not be, when united; for the exemption from seizure is claimed only when the whole is combined and in actual operation, under the patent.

We should not incline to adopt such a construction, unless we could give no other reasonable meaning to the statute. By the laws of *Massachusetts*, property like this is not exempted from seizure in execution; and an officer, who neglected to seize, would expose himself to an action for damages, unless some statute of the *United States* should contain a clear exception. No such express exception can be found; and it is inferred to exist, only by supposing that the officer would, by *the sale*, make himself a wrongdoer, within the clause of the statute above recited. But, within the very words of that clause, it would be no offence to *seize* the machine in execution. The whole offence must consist in a *sale*. It would, therefore, follow, that the officer might lawfully seize; and, if so, it would be somewhat strange if he could not proceed to do those acts, which alone, by law, could make his seizure effectual.

This Court has already had occasion to consider the clause in question, and, upon mature deliberation, it has held, that *the making* of a patented machine, to be an offence within the purview of it, must be the making with an intent to use for profit, and not for the mere purpose of philosophical experiment, or to ascertain the verity and exactness of the specification. (Whittemore *v.* Cutter, 1 Gallis. p. 429.) In other words, that the making

machine, or by a process which is patented, is not an infringement.[1]

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must be with an intent to infringe the patent-right, and deprive the owner of the lawful rewards of his discovery.

In the present case, we think that the sale of a patented machine, within the prohibitions of the same clause, must be a sale, not of the materials of a machine, either separate or combined, but of a complete machine, with the right, express or implied, of using the same, in the manner secured by the patent. It must be a tortious sale, not for the purpose merely of depriving the owner of the materials, but of the use and benefit of his patent. There is no pretence, in the case before us, that the officer had either sold or guaranteed a right to use the machine, in the manner pointed out in the patent-right. He sold the *materials*, as such, to be applied by the purchaser as he should, by law, have a right to apply them. The purchaser must, therefore, act at his own peril, but in no respect can the officer be responsible for his conduct."

[1] Boyd *v.* Brown, 3 McLean's R. 295. "The complainant filed his bill, representing that he is the legal owner of a certain patent-right, within the county of Hamilton, in Ohio, for making bedsteads of a particular construction, which is of great value to him; that the defendant, professing to have a right, under the same patent, to make and vend bedsteads in Dearborn county, Indiana, which the complainant does not admit, but denies; that the defendant sends the bedsteads he manufactures to Hamilton county, to sell, in violation of the complainant's patent; and he prays that the defendant may be enjoined from manufacturing the article, and vending it within Hamilton county, &c.

The defendant sets up, in his answer, a right, duly assigned to him, to make and vend the article in Indiana, and that he is also possessed of an improvement on the same; and he denies that the sales in Hamilton county, complained of by the complainant, are made at his instance, or for his benefit. A motion is now made for an injunction, before the case is prepared for a final hearing.

On the part of the complainant, it is contended that, by his purchase of the right to make and vend the article within Hamilton county, he has an exclusive right to vend, as well as to make, and that his right is infringed by the sales complained of; that his right is notorious, and is not only known to the defendant, but to all those who are engaged in the sales stated. If the defendant, who manufactures the bedsteads in Indiana, be actually engaged in the sale of them in Hamilton county, it might be necessary to inquire whether this is a violation of the complainant's right. But, as this fact is denied in the defendant's answer, for the purposes of this motion,

§ 209. But if the person who sells is connected with the use of the machine, he is responsible as for an infringement; and, if a court of equity have jurisdiction of the person, such a vendor may be enjoined, although the machine may be used beyond the jurisdiction of the Court.[1]

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the answer must be taken as true, and that question is not necessarily involved.

The point for consideration is, whether the right of the complainant is infringed by a sale of the article, within the limits of the territory claimed by the complainant. It is not difficult to answer this question. We think that the article may be sold at any and every place, by any one who has purchased it, for speculation or otherwise.

There can be no doubt that the original patentee, in selling rights for counties or states, might, by a special covenant, prohibit the assignee from vending the article beyond the limits of his own exclusive right. But, in such a case, the remedy would be on contract, and not under the Patent Law. For that law protects the thing patented, and not the product. The exclusive right to make and use the instruments, for the construction of this bedstead, in Hamilton county, is what the law secures, under his assignment, to the complainant. Any one violates this right, who either makes, uses, or sells these instruments within the above limits. But the bedstead, which is the product, as soon as it is sold, mingles with the common mass of property, and is only subject to the general laws of property.

An individual has a patent-right for constructing and using a certain flouring-mill. Now, his exclusive right consists in the construction and use of the mill; the same as the right of the complainant to construct and use the instruments in Hamilton county, by which the bedstead is made. But can the patentee of the mill prohibit others from selling flour in his district? Certainly he could not. The advantage derived from his right is, or may be, the superior quality of the flour, and the facility with which it is manufactured. And this sufficiently illustrates the principle involved in this motion." See, further, Simpson *v.* Wilson, 4 Howard, 709.

[1] Boyd *v.* McAlpin, 3 McLean, 427, 429. In this case, the same learned judge said: "It is insisted that the sale of the thing manufactured by the patented machine is a violation of the patent. But this position is wholly unsustainable. The patent gives 'the exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement.' A sale of the product of the machine is no violation of the exclusive right to use, construct, or sell the machine itself. If, therefore, the defendant has done nothing more than purchase the bedsteads from Brown, who may

§ 210. The Supreme Court of the United States have decided that an assignment of an exclusive right to use a

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manufacture them by an unjustifiable use of the patented machine, still the person who may make the purchase from him has a right to sell. The product cannot be reached, except in the hands of one who is in some manner connected with the use of the patented machine.

There are several patents of mills for the manufacture of flour. Now, to construct a mill patented, or to use one, would be an infringement of the patent. But to sell a barrel of flour manufactured at such mill, by one who had purchased it at the mill, could be no infringement of the patent. And the same may be said of a patented stove, used for baking bread. The purchaser of the bread is guilty of no infringement: but the person who constructed the stove, or who uses it, may be enjoined, and is liable to damages. These cases show that it is not the product, but the thing patented, which may not be constructed, sold, or used. This doctrine is laid down in Keplinger *v.* De Young, 10 Wheat. 358. In that case, watch-chains were manufactured by the use of a patented machine, in violation of the right of the patentee; the defendant, by contract, purchased all the chains so manufactured, and the Court held, that, as the defendant was only the purchaser of the manufactured article, and had no connection in the use of the machine, that he had not infringed the right of the patentee.

But in the case under consideration, the bill charges that the defendant, in connection with Brown, constructed the machine patented; and that they use the same in making the bedsteads which the defendant is now selling in the city of Cincinnati. If this allegation of the bill be true, the defendant is so connected with the machine, in its construction and use, as to make him responsible to the plaintiff. The structure and use of the machine are charged as being done beyond the jurisdiction of the Court; but, having jurisdiction of the person of the defendant, the Court may restrain him from using the machine and selling the product. When the sale of the product is thus connected with the illegal use of the machine patented, the individual is responsible in damages, and the amount of his sales will, in a considerable degree, regulate the extent of his liability.

Whether, if the defendant acts as a mere agent of Brown, who constructed the patented machine, and uses it in Indiana, in making bedsteads, he is responsible in damages for an infringement of the patent, and may be enjoined, is a question which need not now be determined. Such a rule would, undoubtedly, be for the benefit of Brown, who, according to the bill, had openly and continually violated the patent in the construction and use of the machine. There are strong reasons why the interest of the principal should, by an action at law, and also by a bill in chancery, be reached through his agent. Injunction allowed."

machine, and to vend the same to others for use, within a specified territory, authorizes the assignee to vend elsewhere, out of that territory, articles manufactured by such machine.[1]

§ 211. 2. *As to a manufacture or composition of matter.* — Assuming that the word is used in our statute to describe the vendible and tangible product of any branch of industry,[2] a patent for a "manufacture" will be infringed by the same acts as a patent for a composition of matter, that is, by making, using, or selling the thing itself.

§ 212. In cases of this kind, however, some difficulty may arise, as to what constitutes a using. When the subject-matter is the thing produced, the patent will generally also cover the process of making it; as in the case of a paint, a medicine, a stove, or a fabric of cloth. In these cases, a using of the invention would, in one sense, consist in putting it in practice. But the statute vests the exclusive right to use the thing itself in the patentee, because it is the thing produced which is the subject of the patent. Strictly speaking, therefore, the use of the thing at all, in any form of consumption or application, would be an infringement. But, as the purpose of the law is to prevent acts injurious to the patentee, with as little restraint on the public as possible,[3] it may be necessary to consider whether the word "using" is employed in a limited or an unlimited sense.

§ 213. Whether the dictum of Mr. Justice Story that "the using or vending of a patented composition is a violation of the right of the proprietor,"[4] can be considered to extend to every form of use, so as to give the proprietor a right to maintain an action, is worthy of consideration. If a patented

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[1] Simpson *v.* Wilson, 4 Howard, 709.

[2] See *Ante*, Part 1, ch. 2, § 100.

[3] *Per* Coleridge, J., in Minter *v.* Williams, Webs. Pat. Cas. 135, 138.

[4] Whittemore *v.* Cutter, cited *Ante*, § 23, note 1.

medicine is made by one not authorized to make it, and is sold to a person who consumes it, it would be a somewhat inconvenient restraint upon the public to hold, that the latter is to be considered as using the invention in the sense of the statute. He cannot know that the article is not made by the true proprietor; the probability is that he intends to purchase the genuine composition, and that he is deceived into supposing that he does purchase it. Still, in strictness, he may be held liable to an action for using the thing itself by consuming it.

§ 214. It would seem, therefore, in regard to all those classes of things which perish in the using, that the use by which they are consumed may be regarded as a violation of the patent-right; and that the party may be held responsible for using, who sells or gives to others to be consumed, the article that is the subject of the patent; because both make use of the invention to the injury of the patentee. In such cases, it matters not whether the party makes the article himself, in violation of a patented process, or procures it to be made by others.[1]

§ 215. Where the subject of the patent is a machine, the using it is altogether prohibited by the statute, because it intends to vest in the patentee the full enjoyment of the fruits of his invention, both in the practice of making the machine,

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[1] Gibson v. Brand, 4 Man. & Gr. 179, 196. Tindal, C. J.: "The breach alleged in the declaration is, that the defendant had 'directly and indirectly made, used, and put in practice the said invention, and every part thereof, and counterfeited, imitated, and resembled the same.' The proof in support of the breach was, that an order had been given by the defendant, in England, for the making of silk by the same process as the plaintiffs; which order had been executed in England; and that is enough to satisfy the allegation in the declaration — that the defendant made, used, and put in practice the plaintiff's invention — though the silk was, in fact, made by the agency of others." For the converse of this case, where the defendant infringes by executing an order for another person, see § 216.

and of producing the effect or result intended to be produced by it.

§ 216. Where an order was given to the defendants, by a third person, to manufacture a patented article, on a model furnished by him, and the order was executed, it was held that the defendants were guilty of an infringement, although, when they began to execute the order, they had no knowledge of the plaintiff's patent.[1]

§ 217. 3. *An Art.* — Where an art is the subject-matter of a patent, the patent will be infringed by exercising or practising the same art, which will constitute a "using" of the invention or discovery.

§ 218. But the great question that arises when an infringement is charged to have taken place is, whether the two things, one of which is said to be an infringement upon the other, are the same, or different. If they are the same, there is an infringement. If they are different, there is not. But what kind and what degree of resemblance constitute the identity which the Patent Law designates as an infringement, and what kind and what degree of difference will relieve from this charge, are the difficult and metaphysical questions to be determined in each particular case.[2]

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[1] Bryce *v.* Dorr, 3 McLean, 582. Two of the articles were made after notice of the patent.

[2] There is a very great dearth of reported cases, in our own books, giving with any detail the facts brought out at the trial, on which the infringement depended. The reporters of the Circuit Courts of the United States seem to have acted on the idea that there is nothing to be reported in a Patent cause, unless some question of law is raised on motion for a new trial, or for arrest of judgment, &c.; and then we get the facts, only so far as it is convenient for the Court to state them, in deciding the questions raised. This is a great mistake. A careful summary of the evidence given on every important trial for infringement of a patent, including the professional characters and qualifications of the witnesses, together with an accurate description of the

§ 219. Learned judges have often laid it down that, where two things are the same in principle, the one is an infringement upon the other. This mode of stating the general doctrine on which the fact of infringement depends, is not quite satisfactory, because that which constitutes the principle of an invention is very likely to be regarded differently by different minds. Still, there is a sense in which the principle of an invention is undoubtedly to be considered, in determining whether an infringement has taken place; because we cannot determine whether there is a substantial identity between two things, without first observing the distinguishing characteristics of the one which is taken as the subject of comparison. But I propose, without rejecting the light of any of the cases in which this language is employed, to inquire whether the fact of an infringement may not be tried by a test more definite, precise, and practical.[1]

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plaintiff's and defendant's inventions, the rulings of the Court in the progress of the trial, and the charge to the jury, would be of great value.

[1] The meaning to be ascribed to the term *principle* of an *invention* or *discovery*, has been thus commented on by different judges. Mr. Justice Washington, in Treadwell *v.* Bladen, 4 Wash. 706, said, "What constitutes form, and what principle, is often a nice question to decide; and upon none are the witnesses who are examined in patent causes, even those who are skilled in the particular art, more apt to disagree. It seems to me that the safest guide to accuracy in making the distinction is, first to ascertain what is the result to be obtained by the discovery; and whatever is essential to that object, independent of the mere form and proportions of the thing used for the purpose, may, generally, if not universally, be considered as the principles of the invention."

In Whittemore *v.* Cutter, 1 Gallis. 478, 480, Mr. Justice Story said, "By the principles of a machine, (as these words are used in the statute,) is not meant the original elementary principles of motion, which philosophy and science have discovered, but the *modus operandi*, the peculiar device or manner of producing any given effect. The expansive powers of steam, and the mechanical powers of wheels, have been understood for many ages; yet a machine may well employ either the one or the other, and yet be so entirely new in its mode of applying these elements, as to entitle the party to a patent for his whole combination. The intrinsic difficulty is, to ascertain, in complicated cases like the present, the exact boundaries between what was known

§ 220. An infringement involves substantial identity, whether that identity is described by the terms, "same principle," same *modus operandi*, or any other. It is a copy of the thing described in the specification of the patentee, either without variation, or with only such variations as are consistent with its being, in substance, the same thing.[1] What will amount

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and used before, and what is new, in the *mode of operation*." In Barrett *v.* Hall, 1 Mas. 447, 470, the same learned judge said: "As to the opinion of skilful witnesses, whether the principles of two machines are the same, no person doubts that it is competent evidence to be introduced into a patent cause. But care should be taken to distinguish what is meant by a principle. In the minds of some men, a principle means an elementary truth, or power, so that, in the view of such men, all machines, which perform their appropriate functions by motion, in whatever way produced, are alike in principle, since motion is the element employed. No one, however, in the least acquainted with law, would for a moment contend, that a principle in this sense is the subject of a patent; and, if it were otherwise, it would put an end to all patents for all machines, which employed motion, for this has been known as a principle or elementary power, from the beginning of time. The true legal meaning of the principle of a machine, with reference to the Patent Act, is, the peculiar structure or constituent parts of such machine. And, in this view, the question may be very properly asked, in cases of doubt and complexity, of skilful persons, whether the principles of two machines be the same or different. Now, the principles of two machines may be the same, although the form or proportions may be different. They may substantially employ the same power in the same way, though the external mechanism be apparently different. On the other hand, the principles of two machines may be very different, although their external structure may have great similarity in many respects. It would be exceedingly difficult to contend, that a machine, which raised water by a lever, was the same in principle with a machine which raised it by a screw, a pulley, or a wedge, whatever, in other respects, might be the similarity of the apparatus." See note on the "Principle of an Invention," at the end of this chapter.

[1] In Walton *v.* Potter, Webster's Pat. Cas. 586, Sir N. C. Tindall, C. J. said: "Where a party has obtained a patent for a new invention, or a discovery he has made by his own ingenuity, it is not in the power of any other person, simply by varying in form, or in immaterial circumstances, the nature or subject-matter of that discovery, to obtain either a patent for it himself, or to use it without the leave of the patentee, because that would be, in effect and in substance, an invasion of the right; and, therefore, what you have to look at upon the present occasion, is, not simply whether, in form, or in cir-

to such a substantial identity cannot be stated in general terms; we can only look to individual cases for illustrations and applications of the general doctrine.

§ 221. If the invention of the patentee be a machine, it will be infringed by a machine which incorporates in its structure and operation the substance of the invention; that is, by an arrangement of mechanism, which performs the same service or produces the same effect, in the same way, or substantially in the same way.[1]

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cumstances that may be more or less immaterial, that which has been done by the defendants varies from the specification of the plaintiff's patent, but to see whether, in reality, in substance, and in effect, the defendants have availed themselves of the plaintiff's invention, in order to make that fabric, or to make that article which they have sold in the way of their trade; whether, in order to make that, they have availed themselves of the invention of the plaintiff."

[1] Wyeth *v.* Stone, 1 Story's R. 273, 280. In this case, Mr. Justice Story said: "The next point is, whether the ice-machine used by the defendants is an infringement of the patent, or, in other words, does it incorporate in its structure and operation the substance of Wyeth's invention? I am of opinion that it does include the substance of Wyeth's invention of the ice-cutter. It is, substantially, in its mode of operation, the same as Wyeth's machine; and it copies his entire cutter. The only important difference seems to be, that Wyeth's machine has a double series of cutters, on parallel planes; and the machine of the defendants has a single series of chisels, in one plane. Both machines have a succession of chisels, each of which is progressively below the other, with a proper guide placed at such a distance as the party may choose, to regulate the movement; and in this succession of chisels, one below the other, on one plate or frame, consists the substance of Wyeth's invention. The guide, in Wyeth's machine, is the duplicate of his chisel plate or frame; the guide, in the defendant's machine, is simply a smooth iron, on a level with the cutting single chisel frame or plate. Each performs the same service, substantially, in the same way.

In Odiorne *v.* Winkley, 2 Gallis. 51, 53, the same learned judge said: "The first question for consideration is, whether the machines used by the defendant are substantially, in their principles and mode of operation, like the plaintiff's machines. If so, it was an infringement of the plaintiff's patent to use them, unless some of the other matters offered in the defence are proved. Mere colorable alterations of a machine are not sufficient to protect the defendant.

§ 222. But if the difference between the two machines is not a mere difference of form; if there is a material altera-

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The original inventor of a machine is exclusively entitled to a patent for it. If another person invent an improvement on such machine, he can entitle himself to a patent for such improvement only, and does not thereby acquire a right to patent and use the original machine; and, if he does procure a patent for the whole of such a machine with the improvement, and not for the improvement only, his patent is too broad, and therefore void. It is often a point of intrinsic difficulty to decide, whether one machine operates upon the same principle as another. In the present improved state of mechanics, the same elements of motion and the same powers must be employed in almost all machines. The lever, the wheel, and the screw, are powers well known; and if no person could be entitled to a patent who used them in his machine, it would be in vain to seek for a patent. The material question, therefore, is, not whether the same elements of motion, or the same component parts are used, but whether the given effect is produced, substantially, by the same mode of operation, and the same combination of powers, in both machines. Mere colorable differences, or slight improvements, cannot shake the right of the original inventor. To illustrate these positions: suppose a watch was first invented by a person, so as to mark the *hours* only, and another person added the work to mark the minutes, and a third the seconds; each of them using the same combinations and mode of operations, to mark the hours, as the first. In such a case, the inventor of the second hand could not have entitled himself to a patent embracing the inventions of the other parties. Each inventor would undoubtedly be entitled to his own invention and no more. In the machines before the court, there are three great stages in the operations, each producing a given and distinct effect: — 1. The cutting of the iron for the nail; 2. The griping of the nail; 3. The heading of the nail. If one person had invented the cutting, a second the griping, and a third the heading, it is clear, that neither could entitle himself to a patent for the whole of a machine which embraced the inventions of the other two, and, by the same mode of operation, produced the same effect; and, if he did, his patent would be void. Some machines are too simple to be thus separately considered; others, again, are so complex, as to be invented by a succession of improvements, each added to the other. And, on the whole, in the present case, the question for the jury is, whether, taking *Reed's* machine and *Perkins's* machine together, and considering them in their various combinations, they are machines constructed substantially upon the same principles, and upon the same mode of operation."

One machine is the same in substance as another, if the principle be the same in effect, though the form of the machine be different. In Boville *v.*

tion of structure; if they are substantially different combinations of mechanism, to effect the same purpose by means which are really not the same in substance, then the one will not be an infringement of the other.[1]

Moore, Dav. Pat. Cas. 361, 405, Gibbs, Lord C. J., said: "I remember that was the expedient used by a man in Cornwall, who endeavored to pirate the steam-engine. He produced an engine, which, on the first view of it, had not the least resemblance to Boulton and Watt's; — where you looked for the head you found the feet, and where you looked for the feet you found the head; but it turned out that he had taken the principle of Boulton and Watt's — it acted as well one way as the other; but, if you set it upright, it was exactly Boulton and Watt's engine. So, here, I make the observation, because I observe it is stated that one acts upwards, and the other downwards; one commences from the bottom and produces the lace by an upward operation, the other acts from above, and produces it by an operation downwards, but that, if the principle be the same, must be considered as the same in point of invention."

[1] Lowell *v.* Lewis, 1 Mas. 182, 191. In this case, the same learned judge said: "The manner in which Mr. *Perkins's* invention is, in his specification, proposed to be used, is in a square pump, with triangular valves, connected in the centre, and resting, without any box, on the sides of the pump, at such an angle as exactly to fit the four sides. The pump of Mr. *Baker*, on the other hand, is fitted only for a circular tube, with butterfly valves of an oval shape, connected in the centre, and resting, not on the sides of the pump, but on a metal rim, at a given angle, so that the rim may not be exactly in contact with the sides, but the valves may be. If, from the whole evidence, the jury is satisfied that these differences are mere changes of form, without any material alteration in real structure, then the plaintiff is entitled to recover; if they are substantially different combinations of mechanical parts to effect the same purposes, then the defendant is entitled to a verdict. This is a question of fact, which I leave entirely to the sound judgment of the jury."

In Gray *v.* James, Peters's Cir. C. R. 394, 397, Mr. Justice Washington said: "What constitutes a difference in principle between two machines, is frequently a question of difficulty, more especially if the difference in form is considerable, and the machinery complicated. But we think it may safely be laid down, as a general rule, that, where the machines are substantially the same, and operate in the same manner, to produce the same result, they must be in principle the same. I say *substantially*, in order to exclude all formal differences; and, when I speak of the same result, I must be understood as meaning *the same kind of result, though it may differ in extent. So*

§ 223. But, in cases where the patent is not for a combination, if the principle is applied in the same way as the patentee has applied it, then the absence of two or three things in the defendant's machine, which are mentioned in the specification, will not prevent the patentee from recovering for an infringement.[1] It is in relation to this question of substantial identity, that the doctrine of mechanical equivalents becomes practically applicable. This doctrine depends upon the truth that the identity of purpose, and not of form or name, is the true criterion in judging of the similarity or dissimilarity of two pieces of mechanism. The question whether one thing is a mechanical equivalent for another, is a question of fact for the jury, on the testimony of experts, or an inspection of the machines; and it is an inference to be drawn from all the circumstances of the case, by attending to the consideration, whether the contrivance used by the defendant is used for the same purpose, performs the same duties, or is applicable to the same object, as the contrivance used by the patentee.[2] Hence, two things may be mechanical equiva-

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that the result is the same, according to this definition, whether the one produce more nails, for instance, in a given space of time, than the other, if the operation is to make nails."

[1] Jones *v.* Pearce, Webs. Pat. Cas. 122, 124. And if the imitation be so nearly exact as to satisfy the jury that the imitator attempted to copy the model, and to make some almost imperceptible variation, for the purpose of evading the right of the patentee, it may be considered a fraud upon the law, and such slight variation will be disregarded. Davis *v.* Palmer, 2 Brock. 298, 309.

[2] In Morgan *v.* Seaward, Webs. Pat. Cas. 170, Alderson, B., instructed the jury as follows: "The first defence is, that they did not infringe the patent. That is a question of fact, with regard to which, I do not think it is at all material to recapitulate the evidence, for I understand, from an intimation you have thrown out, that you entertain no doubt about it, that is, that the one is an infringement of the other. Upon that subject, the question would be, simply, whether the defendants' machine was only colorably different, that is, whether it differed merely in the substitution of what are called mechanical equivalents for the contrivances which are resorted to by the patentee. I think, when you are told what the invention of the plaintiff's

lents for each other under some circumstances, which would not be so under different circumstances. Hence, also, the names, as well as the forms, of things are of comparatively little importance. The question to be determined is, whether, under a variation of form, or by the use of a thing which bears a different name, the defendant accomplishes, in his machine, the same purpose, object, or effect, as that accomplished by the patentee; or, whether there is a real change of structure and purpose.[1]

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really is, you will see that those differences which Mr. Donkin and others point out as existing between the one machine and the other, are, in truth, differences which do not affect the principle of the invention. Therefore, the two machines are alike in principle; one man was the first inventor of the principle, and the other has adopted it; and, though he may have carried it into effect, by substituting one mechanical equivalent for another, still you are to look to the substance, and not to the mere form, and, if it is in substance an infringement, you ought to find that it is so. If, in principle, it is not the same, but really different, then the defendants cannot be said to have infringed the patent. You will, however, when you are considering that subject, remember, that, when the model of Mr. Stevens's paddles was put into the hands of Mr. Donkin, he said, at first sight, that it was exactly like the plaintiffs'; and so like was it as to induce him to say that it was precisely the same in principle, till I pointed out to him a material difference in it, and then it appeared, that, though there was a similarity of execution, there was a real difference in principle, therefore it was not similar to the plaintiffs' wheel, though at first sight it had the appearance of being similar. So you see you ought to look always to the substance, and not to the form." In Webster *v.* Lowther, before Lord Tenterden, the jury, upon the evidence of *sportsmen*, that the lock with a sliding bolt was more readily used in the field, particularly in wet weather, than the screw and washer, found that the alteration was a material and useful improvement; and, upon evidence *by mechanics*, that a spring in a bolt was the same thing as a bolt sliding in a groove, they found that the defendant had infringed the patent of the plaintiff. Godson on Patents, 232, 233. Here an important advantage was gained, but it was gained by the use of a mechanical equivalent, and, consequently, the new advantage did not prevent the defendant's lock being an infringement on the plaintiffs'.

[1] Thus, in the old mode of making chains, the different parts of the chain were held together by one branch of the chain being linked within another, or else the different branches were connected together by holes perforated

§ 224. If the change or addition, introduced by the defendant, constitutes an equivalent, in reference to the means used

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through each, and connected by a pin or screw. Subsequently, a party united these two modes, by inserting one link within the other, and perforating both by a pin. A second inventor then made a chain which united both these principles of support, but in a different manner, by using a piece of metal *called* a pin, for a totally different purpose, not performing the same duties, or applicable to the same object; and it was held that he was well entitled to a patent for his invention. In the matter of Cutler's patent, Caveat at the Great Seal, Webs. Pat. Cas. 418, 430. In Morgan *v.* Seaward, Webs. Pat. Cas. 167, Sir L. Shackwell, V. C., said, "The question in the case is, simply, whether the eccentric motion is produced by the adoption of the same combination of machinery by the defendants as the plaintiffs are entitled exclusively to use. Upon reading the specification, it appears that a particular combination, insisted on, is described under the item rods, bent rods, disc, and crank. If Mr. Galloway had been asked, at the time he gave this description, whether he meant the disc should revolve on a crank only, or that it should be made to revolve by any other suitable means, his reply might have been general; but, as he has thought proper to specify a crank, the question to determine is, whether the eccentric axis, with a collar in the defendants' contrivance, is the same as a crank in that of the plaintiffs'. The term crank is a relative term, and might have reference to some particular piece of machinery. The arrangement adopted by the defendants, is a most important variation from the invention, for, instead of weakening the action of the paddle wheel, that is preserved entire, unbroken, and unencumbered. That perpetual vibration or destroying power, as it might be termed, on the outer part of the frame work that supports the wheel, is entirely avoided, and the vibration at the centre of the disc within the wheel is transferred from a part of the machinery, least able to bear it, to the side of the vessel, that is made strong for the purpose; and, although it might be said, the action of the rods on one side of the float boards might distort them a little, that inconvenience might be more than counterbalanced by other advantages. The alteration is, therefore, not merely colorable, but *primâ facie* a decided improvement, by the introduction, into a combination of three things, of that which is not noticed at all in the specification."

In Gray *v.* Osgood, Peters's Circ. C. R. 394, 398, may be found a clear illustration of the doctrine of mechanical equivalents. Washington, J., said: "In the former, [the plaintiff's machine,] we find the two jaws of a vice, the one fixed, and the one movable on a pivot at the top, which connects them together. In each of these jaws is fixed a cutter, the use of which is to cut off from the bar of iron as much as will be necessary to form the nail, which,

by the patentee, and, besides being such an equivalent, it accomplishes some other advantage beyond the effect or pur-

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being separated, falls by its own gravity into a die, which holds it by a firm gripe until the head is formed, by what is called the set, or heading die. The power which produces this double operation, is a lever of the first order, acting upon a toggle-joint, which compresses the two jaws, and, consequently, the cutters together, and also the set in such a manner as to head the nail. But the whole is performed by the same movement of the lever.

It is impossible to describe the parts of the defendant's machine, and its operation, without using the same expressions, except that his is inverted, the pivot of the vice being below, and a lever of the second order embracing the jaws with a friction roller, acting on an inclined plane made on the moving jaw of the vice, instead of the lever of the first order, and the toggle-joint. But it is in full proof, that these differences as to the lever and the friction roller, are the necessary consequences of the machine being inverted. After having made this comparison, and ascertained the mode of operation by each machine, connected with the result of each, the jury can find little difficulty in deciding whether they are the same in principle or not.

The witnesses have differed in opinion as to the comparative merit of the toggle-joint in Perkins's machine, and the friction roller in Read's. If their operation is precisely the same, the difference in form does not amount to an invention of any kind.

If the friction roller is better than the toggle-joint, which seems to be the opinion of some of the defendant's witnesses, then Read has the merit of having discovered an improvement on Perkins's machine, and no more.

If the jury should be of opinion, that the parts of the two machines which I have noticed are the same in principle, and that each will, by the same operation, cut and head nails; then it will follow, that the forcing slide, the proximity of the cutters and dies to each other, the balance wheel, and some other additional parts in Read's machine, which give it a great and acknowledged preference over Perkins's, are merely improvements, but do not change the principle of the machine. If improvements only, what is the legal consequence? Most clearly this, and no more: that Perkins, and those claiming under his patent, have no right to use these improvements without a license from the inventor. But, on the other hand, neither Read nor any other person, can lawfully use the discovery of Perkins of the principal machine, without a license from him. The law, wisely and with justice, discriminates between, and rewards the merit of each, by granting an exclusive property to each in his discovery, but prevents either from invading the rights of the other. If, then, the jury should be of opinion, that the two machines are the same in principle, it is no defence for the defendants' for using Perkins's discovery, that they have improved it, no matter to what

pose accomplished by the patentee, it will still be an infringement, as respects what is covered by the patent, although the further advantage may be a patentable subject as an improvement upon the former invention.[1]

§ 224 *a*. Very nice questions may arise respecting the doctrine of equivalents, with regard to the existing knowledge at the time the patent is issued. Every patent, for example, for a chemical manufacture, embraces the use of the ingredients described, and all equivalents, if it is properly drawn. But does it embrace only the *known* equivalents, or does the discovery, after the patent, of an equivalent not then known, constitute a distinct invention? And, on the other hand, does the use of the materials which will produce a substance employed in a patented process, constitute the use of an equivalent, or is it the use of the substance itself? If it is the use of the substance itself, then it is immaterial whether it was or was not known that the materials employed will produce that substance; but, if it is the use of an equivalent, the question may become extremely important, whether the thing used was known to be an equivalent at the time of the patent. In a recent English case, the plaintiff had a patent for the employment of carburet of manganese in preparing an improved cast steel, by putting iron and the carburet with carbonaceous matters and iron into a crucible, and fusing them. The defendant put oxide of manganese and carbonaceous matter with iron into a crucible; and it appeared that, at a certain temperature, the oxide of manganese and the carbonaceous matter united and formed carbonate of manganese, and then, in the same process, but at a higher temperature, the carburet acted upon the iron and produced the

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extent." So, too, it is wholly immaterial that the defendants' invention is better than that of the plaintiff, unless there is a substantial difference in principle. Alden *v.* Dewy, 1 Story's R. 336, 337.

[1] See the case of Electric Telegraph Co. *v.* Brett, 4 Eng. Law & Eq. Reports, 344.

same result as in the plaintiff's process. Before the plaintiff discovered his process, neither the carburet of manganese, nor its component elements, had been used in the manufacture of cast steel; and, before the defendant discovered the fact, it was not known that oxide of manganese and carbonaceous matter would form carburet of manganese. In error to the Exchequer, a majority of the judges of the Common Pleas held, that the use of the elements of a composite substance is a use of the composite substance itself, and not of an equivalent; but two of the judges held it to be the use of an equivalent, and that, as the defendant had discovered an equivalent not known at the time of the plaintiff's patent, they thought it was not an infringement. Some of the judges, however, who were in the majority, seem to have considered that, if it was an equivalent, the fact that the discovery of the equivalent by the defendant — that equivalent being the component elements of the substance embraced in the plaintiff's process — would make no difference, provided they were used for the purpose of being an equivalent to the substance itself.[1]

§ 225. Where the subject-matter of the patent is a manufacture, the same test of substantial identity is to be applied. In many cases of this kind, it will not be by varying in form, or in immaterial circumstances, the nature of the article, or the process by which it is produced, that a party can escape the penalties of infringement. The question will be, whether, in reality and in substance, the defendant has availed himself of the invention of the patentee, in order to make the fabric or article which he has made. If he has taken the same plan, and applied it to the same purpose, notwithstanding he may have varied the process of the application, his manufacture will be substantially identical with that of the patentee.[2]

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[1] Heath *v.* Unwin, 14 Eng. Law and Eq. Reports, 202.

[2] Walton *v.* Potter, Webs. Pat. Cas. 585, 607. In this case, Erskine, J.,

§ 226. But, in regard to another class of cases, it not unfrequently happens, that the sole evidence of infringement consists in the similarity of the articles, without any direct evidence of their having been made by the same process. Similarity in appearance and structure will not, of itself, always

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said: "Then there remains the first plea, by which it is denied that the defendants had infringed the patent of the plaintiff, andthat depends upon whether the plan which the defendants have employed, is, in substance, the same as the plaintiff's, and whether all the differences which have been introduced by them in the manner of making their cards, are not merely differences in circumstances not material, and whether it is not, in substance and effect, a mere colorable evasion of the plaintiff's patent. The jury, it appears to me, have come to the right conclusion, that this was, in effect and substance, the same as the plan of the plaintiff. The plaintiff's plan is, the insertion of the teeth through India rubber, giving to the teeth the additional elasticity of the India rubber, beyond what the wire had of itself. The defendant's plan is for the same purpose. The only difference is, that the plaintiff, in employing the India rubber, takes a slice either from the original block, as it is imported into this country, or from the improved block as it is used after it has been compressed, and places it upon a piece of holland, for the purpose of keeping the teeth more firmly in their places, and then afterwards placing it on the engine, by nailing that holland on the engine, or taking away the holland, and cementing the India rubber to the cylinder, giving an elasticity to the teeth of the card by the India rubber, which is next to them. The defendant's plan is, to saturate a piece of cloth with India rubber dissolved, and then to lay upon the surface a further layer of India rubber on both sides, and then to insert the teeth through the substance of the cloth and the India rubber. But what is the principle upon which this becomes useful to the card, and the person who employs those cards in the carding of wool? Why it is, that there is, upon the surface and the substance of the cloth, the elasticity of the India rubber; that the India rubber is there in its natural state, having been brought back to its natural state by the evaporation of the material in which it had been first dissolved, for the purpose of first laying it on. The only difference, therefore, is in the mode of laying on the India rubber, for the purpose of having it pierced by the teeth. That appears to me not to be a difference in principle, or a matter which so varies the plan of the defendants from the plan of the plaintiff, as to entitle them to call it a new invention, or different from the plaintiff's. It seems to me a mere difference in circumstances not material, and, therefore, it is an infringement of the plaintiff's right, and the verdict of the jury ought to stand."

establish an infringement; because the patent, though it covers the manufactured article itself, may be for the process of the manufacture. In such cases, the inference that the same process was used, must be drawn from the evidence; and the rule was laid down by Lord Ellenborough, that the similarity of structure of two things is presumptive evidence of their being made in the same way.[1]

§ 227. In such cases, where the object to be accomplished is open to the public, notwithstanding the patent, provided it can be accomplished in several modes, which, as processes, are substantially different, an infringement must be in respect of the process used by the patentee. But, unless it appears that the article itself could be produced by another process, constituting an independent discovery, then an infringement may be proved, by the making of the article. The burden of proof is always on the plaintiff, to show that his process has been infringed; and, in the absence of direct evidence, the similarity of the effect produced will generally be sufficient to establish an infringement, and, if this is aided by evidence of the use of similar apparatus, the presumption of

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[1] Huddart *v.* Grimshaw, Webs. Pat. Cas. 85, 91. This is a very instructive case. The plaintiff's patent was for "a new mode of making great cables, and other cordage, so as to attain a greater degree of strength therein, by a more equal distribution of the strain upon the yarns." Pieces of cordage, made by the defendant, were put into the hands of the plaintiff's witnesses, and, from the fact that the same effect was produced in them, and from the similarity of structure, they gave the opinion, that they were made by the same process as the plaintiff's. This was the question at issue, on the point of infringement. The object to be accomplished, the making a stronger rope, was clearly open to the public. Lord Ellenborough said, that it had happened to him, in the same morning, to give, as far as he was concerned, his consent to the granting of three different patents for the same thing; but the modes of attaining it were all different. But it did not follow that the plaintiff's *method of attaining the object* was open to the public; and, therefore, the question for the jury was, whether the defendant had used the plaintiff's method, or some other.

a use of the same process will be still stronger.[1] Or, to state this in other words, where the invention, or subject-matter of the patent, is a manufacture, it is immaterial by what process it is produced; since the infringement must consist in making the same thing, whether by one process or another. But where the invention or subject-matter is the process of making a particular thing, which may or may not be made by more than one process, the inquiry will be, whether it has been made by the use of the process covered by the patent. In such cases, the identity of the manufactured article is, with all the other circumstances, competent evidence, from which the jury are to infer that it was made by the process of the patentee; although there may be cases, where, from the nature of the article, this proof would be less strong, according as it appeared to be possible or probable that the article could be made by more than one process. The burden of proof of the infringement is upon the plaintiff throughout; and, although it does not appear that the article could be made by another process, the jury must still draw the inference, from the identity of the manufacture, if that is all the evidence, or from that and the other evidence, that it was made by the patentee's process.

§ 228. But a much more difficult class of cases arises under those patents, where the subject-matter is the application of a principle, by means of a process or method, in order to produce a particular effect. We have already had occasion

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[1] See the preceding note, and the case there cited. See, also, the more recent case of Hall *v.* Boot, Webs. Pat. Cas. 100, 102. Hall's patent was for a new method of singing off the superfluous fibres upon lace, by means of the flame of gas. The evidence, to show the infringement, consisted of proof that the defendant had secretly prepared a gas apparatus, similar to that used by the plaintiff, and *that lace left with the defendant, to be dressed, had been returned in the state to which it would have been brought by the plaintiff's process, and that a similar lace had been offered for sale by the defendant.* The plaintiff had a verdict.

to consider when such an invention or discovery is the proper subject-matter of a patent. We have seen that, under some circumstances, the discovery of a principle may, by application in the arts, be protected by a patent; and we have now to consider, how far the proprietor of such a patent may protect himself, against the use of the same principle by others; or, in other words, what will constitute an infringement of his right.

§ 229. In this inquiry, the first thing to be attended to is, the subject-matter of the patent. A clear idea is to be formed of the object of the patent; and, provided the specification properly points out what the claim of the patentee is, it is not material in what form his claim is presented, or whether, in form, the patent purports to be for a process or a manufacture. Wherever the real subject, covered by the patent, is the application of a principle, in arts or manufactures, the question, on an infringement, will be as to the substantial identity of the principle, and of the application of the principle; and, consequently, the means, machinery, forms, or modifications of matter made use of, will be material, only so far as they affect the identity of the application.

§ 230. Thus, in Forsyth's patent, the subject-matter was, the use and application of detonating powder, as priming, for the explosion of gunpowder; and it was held that, whatever the construction of the lock by which the powder was to be discharged, the use of detonating mixture, as priming, was an infringement.[1] So, too, where the claim of the patentee was for "the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight and the seat act as a counter balance to the pressure against the back of such chair;" it was held that a chair, made in any way

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[1] Forsyth's Patent, Webs. Pat. Cas. 95; Forsyth v. Riviere, Ib. 97, note.

upon this principle, was an infringement.[1] In like manner, where the principle of the invention was the welding of iron tubes by pressure of the edges of the iron, when heated, without the use of a maundril, or other internal support, it was held, that a variation from the plaintiff's mode of applying the pressure, the application of the principle being the same, was still an infringement.[2]

§ 231. Clegg's patent was for the application of a law of natural science, respecting the motion of fluids and solids, and the alternate filling and discharging of a vessel of gas, by means of that application; the object being to obtain an instrument for measuring the quantity of gas supplied to the consumer. The scientific witnesses said, that the moment a practical scientific man had got that principle, he could multiply, without end, the forms in which it could be made to operate. The instrument used by the defendant, was different, in form and construction, from that used by the patentee; but the application of the principle, by means of a varied apparatus, was the same in both; and it was held an infringement.[3]

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[1] Minter *v.* Wells, Webs. Pat. Cas. 127, 134.

[2] Russell *v.* Cowley, Webs. Pat. Cas. 459, 462. See the extracts in the note, *ante*, § 79, p. 69.

[3] Cited in Jupe *v.* Pratt, Webs. Pat. Cas. 146. Alderson, B., said: — "It was for measuring the quantity of gas that was supplied to every individual, in order that they might not take it without being known. There never was a more instructive case than that; I remember very well the argument put by the Lord Chief Baron, who led that case for the plaintiff, and succeeded. There never were two things to the eye more different than the plaintiff's invention, and what the defendant had done in contravention of his patent-right. The plaintiff's invention was different in form — different in construction; it agreed with it only in one thing, and that was, by moving in the water a certain point was made to open, either before or after, so as to shut up another, and the gas was made to pass through this opening; passing through it, it was made to revolve it; the scientific men, all of them, said, the moment a practical scientific man has got that principle in his head,

§ 232. In Neilson's patent, the invention consisted in the application of hot air to the blowing of furnaces, by heating the air between its leaving the blowing apparatus and its introduction into the furnace, in any way, in a close vessel, exposed to the action of heat. The defendant's apparatus for this purpose was confessedly superior to what would be constructed according to the directions in the plaintiff's specification; but it was held to be an infringement.[1]

§ 233. These cases show that, when a party has invented some mode of carrying into effect a law of natural science, or a rule of practice, it is the application of that law or rule

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he can multiply, without end, the forms in which that principle can be made to operate. The difficulty which will press on you, and to which your attention will be called in the present case, is this, you cannot take out a patent for a principle; you may take out a patent for a principle, coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect. But then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as piracy of your original invention. But then the difficulty that will press on you here is, that, on the evidence, there does not appear to have been any mode of carrying the principle into effect at all invented by you."

[1] Neilson *v.* Harford, Webs. Pat. Cas. 310. Parke, B., said to the jury, "If the specification is to be understood in the sense claimed by the plaintiffs, the invention of heating the air between its leaving the blowing apparatus and its introduction into the furnace, in any way, in any close vessel, which is exposed to the action of heat, there is no doubt that the defendant's machinery is an infringement of that patent, because it is the use of air which is heated much more beneficially, and a great improvement upon what would probably be the machine constructed by looking at the specification alone; but still it is the application of heated air, heated in one or more vessels between the blowing apparatus and the furnace, and, therefore, if it should turn out that the patent is good, and the specification is good, though unquestionably what the defendants have done is a great improvement upon what would be the machinery or apparatus constructed under this patent, it appears to me that it would be an infringement of it." See, also, the observations of the Lord Justice Clerk Hope, cited *ante*.

which constitutes the peculiar feature of his invention; that he is entitled to protect himself from all other modes of making the same application; and, consequently, that every question of infringement will present the question, whether the different mode, be it better or worse, is, in substance, an application of the same principle. The substantial identity, therefore, that is to be looked to, in cases of this kind, respects that which constitutes the essence of the invention, namely, the application of the principle. If the mode of carrying the same principle into effect, adopted by the defendant, still shows only that the principle admits of the same application in a variety of forms, or by a variety of apparatus, the jury will be authorized to treat such mode as a piracy of the original invention. But, of course, where the variations adopted by the defendant show that the application of the principle is varied, that some other law or rule of science, or of practice, is made to take the place of that which the patentee claims as the essence of his invention, then there will be no infringement, but a substantial invention.[1]

§ 234. And this brings us to the consideration of another test of the fact of infringement, namely, that which shows, on the part of the defendant, a substantive invention sufficient to support a patent, as for a new thing.

§ 235. There may be many different modes of obtaining the same object, and, consequently, if, after a patent has been obtained for a particular thing, another party, without borrowing from that patent, has invented a new mode of accomplishing the same object, he will be entitled to a patent for his discovery.[2] The fact that a party is entitled to a patent

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[1] See the cases cited *Ante*, Part I., Ch. II.

[2] Sir N. C. Tindall, C. J., in Walton *v.* Potter, Webs. Pat. Cas. 590, thus states the general principle, "Now there can be no doubt whatever that, although one man has obtained a patent for a given object, there are many modes still open for other men of ingenuity to obtain a patent for the

for a substantive invention, becomes a test of his infringement of a prior patent, in this way. He cannot have become entitled to a patent without the invention of something material and new, that goes to the essence and substance of the subject-matter. If what he has done is only to make a variation in certain particulars, which do not affect the principle of the invention, the subject-matter remains the same, notwithstanding such variation. But, if he has produced a new subject-matter, whether it be in the mode of accomplishing a common object, or in the object itself, he has not infringed upon the subject-matter of another which was materially and essentially different.

§ 236. The application of this test is seen in a striking manner, in the facts of a recent English case. The plaintiff had obtained a patent for "an invention of improvements in cards, for carding wool, cotton, silk, and other fibrous substances, and for raising the pile of woollen cloths." In his specification, he stated his invention to consist in "the application and adaptation of caoutchouc or India rubber, as a substitute for the fillets or sheets of leather that were commonly used in the construction of ordinary cards, and thus giving a superior elasticity and durability to cards;" and, in describing

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same object; there may be many roads leading to one place, and, if a man has, by dint of his own genius and discovery, after a patent has been obtained, been able to give the public, without reference to the former one, or borrowing from the former one, a new and superior mode of arriving at the same end, there can be no objection to his taking out a patent for that purpose. But he has no right, whatever, to take, if I may so say, a leaf out of his neighbor's book, for he must be contented to rest upon his own skill and labor for the discovery, and he must not avail himself of that which had before been granted exclusively to another; and, therefore, the question again comes round to this — whether you are of opinion that the subject-matter of this second patent is perfectly distinct from the former, or whether it is virtually bottomed upon the former, varying only in certain circumstances, which are not material to the principle and substance of the invention."

the mode of preparing the article, stated, that "the regularity of distance and the uniformity of the dents or teeth of the cards were found to be better preserved by a piece of linen commonly called brown holland, or other like cloth, well glazed and cemented on to the back of the caoutchouc or India rubber;" that the cloth so placed rendered the action of the dents or teeth less uncertain in their elastic movements; that the cloth, so cemented to the India rubber or caoutchouc, was to be affixed to the cylinder or board of the ordinary carding engine by nails, but, if it was to be affixed by cementing, (which he recommended as the best mode of applying the cards,) then it was desirable to remove the cloth;" and he then proceeded to show the ordinary mode of pricking or piercing holes for the reception of the dents or teeth, the mode of cutting the India rubber, &c. The defendants subsequently obtained a patent, also, for "an improvement or improvements in cards for carding various fibrous substances, part of which improvements may be used as a substitute for leather;" and, in their specification, they stated their invention to consist in the manufacture of a new material or substance for receiving the wire teeth, which they described to be a woven fabric of a peculiar construction, soft and porous, saturated with a solution of India rubber by being repeatedly passed through it, and then dried and submitted to pressure; the object being to render the fabric so dealt with "extremely elastic in the direction of the thickness of the fabric, so as to impart, as it were, elasticity to the wire teeth when set."

§ 237. The question as to the infringement was, whether the defendants had added any thing material, not covered by the plaintiff's patent, which could be considered as constituting a subject-matter distinct from that of the plaintiff's. It appeared that the difference between the article manufactured under the plaintiff's patent, and that under the defendants' patent, which was complained of as an infringement, was, that, in the former, the caoutchouc or India rubber was

cemented in slices cut from the solid block, to linen cloth, or cloth made of linen and cotton, in the manner described in the plaintiff's specification, and that the latter consisted of cloth of a peculiar fabric, saturated or impregnated by passing it through a liquid composed of caoutchouc or India rubber dissolved in naptha or oil of turpentine and highly rectified coal tar oil, and afterwards drying and submitting it to pressure. The plaintiff's evidence tended to show, that the article made by the defendants was a colorable imitation of that made under the plaintiff's patent; the cloth being merely placed in the centre, between two strata of India rubber or caoutchouc, instead of at the back, and the India rubber, though applied in solution or in the form of a cement, being capable of being reproduced by evaporation of the solvent, and the principle and the result of both methods being the same, namely, the acquisition of an increased elasticity, though the modes of attaining that result were somewhat different. It was also sworn, that, for the purpose of the plaintiff's patent, caoutchouc or India rubber might be used either in the state in which it is imported, or in a manufactured state, that is, dissolved by certain known solvents, and, afterwards, by evaporation of the solvents, restored to solid blocks; but that, if free from air-holes, (in which state it was *possible* to obtain it,) it was more desirable to have it in its natural state, its elasticity being somewhat diminished by the artificial process.

§ 238. On the part of the defendants, several witnesses, as well practical as scientific, were called, who stated that the principle of the manufactures, respectively described in the specifications of the plaintiff and defendants, was essentially different, as well in the materials used, and the mode in which they were put together, as in the operation or result of their combination; the one process being wholly mechanical, the other strictly chemical, and the effect of the former being, to give *elasticity*, and of the latter, to give strength and *flexibility*, or *pliancy*, but imparting only a very slight additional

elasticity to the card; that the proportion which the India rubber bore to the cloth, as used by the plaintiff, was generally about three to one, whereas the proportion of India rubber solution, used by the defendants, was from twenty to forty per cent. only; and that India rubber, as imported, was wholly unfit for the purpose described in the plaintiff's specification, never being sufficiently free from imperfection.

§ 239. Upon the issue of not guilty, the jury found a verdict for the plaintiff, thereby establishing, that the defendant's card was an infringement of the plaintiff's, both employing the elasticity of caoutchouc next to the teeth, and the defendant's practising, by a circuitous mode, that which falls within the claim of the plaintiff's patent.[1]

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[1] Walton v. Potter, Webs. Pat. Cas. 585, 597; 4 Scott's N. R. 91. On the application for a new trial, Maule, J., said: — "With respect to the issue of not guilty, in order to determine whether or not the verdict has been correctly found for the plaintiff, on that issue, it is necessary to consider what is the subject of the defendant's patent; for it is quite clear, that what the defendants have done they claim to do under their patent. By their specification, the defendants claim to be the inventors of a new material for forming the backs of cards; and they describe the mode of preparing it, thus, namely, 'by repeatedly passing a woven fabric, of a peculiar construction, through, and saturating it with a solution of caoutchouc, or India rubber, and then drying it, in order to evaporate the solvents, and leave the fabric impregnated and coated with caoutchouc, or India rubber, and afterwards submitting it to pressure;' and the object they describe, as being to render the fabric so dealt with 'extremely elastic, in the direction of the thickness of the fabric, so as to impart, as it were, elasticity to the wire teeth, when set.' That is, in effect, producing, by a circuitous process, a cloth with a layer of caoutchouc, or India rubber, on each side of it, so as to give a great degree of elasticity to the basis of the dents or teeth of the card. The plaintiff, by his specification, claims the exclusive right of making cards with caoutchouc, or India rubber, as the fillet, or sheet, or medium, in which the dents, or teeth, are to be set; the object being, like that of the defendants, the attainment of a superior degree of elasticity and durability; and, in describing his mode of attaining that object, he states that he inserts the wire dents or teeth in a foundation or fillet of caoutchouc, or India rubber, — a slice of India rubber in its natural state — and that, with a view to pre-

§ 240. But if the defendants, in this case, could have succeeded in showing that the materials, of which they made their cards, and the mode in which they were put together, were different from the materials and method of construction used by the plaintiff; if they could have satisfied the jury that the difference, expressed by saying that the one process was mechanical and the other chemical, was a real and substantial, and not a colorable difference; then they would, notwithstanding the former patent of the plaintiff, and notwithstanding that the objects of both were the same, have appeared to be the authors of a substantive invention, because they would have produced a distinct subject-matter, new in all material respects, of a useful character, and, therefore, capable of supporting an independent patent. But it appeared that the plaintiff's patent covered the use of India rubber, combined with cloth, as a fillet or sheet for the backs of cards, in which to insert the teeth, in order to accomplish certain purposes; and, that the mode in which the defendants brought these same materials into combination, for the same purposes, was only a circuitous mode of doing what the plaintiff had done, and, therefore, that they had produced nothing new, material to the principle and substance of the invention.

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serve the regularity of distance, and uniformity of the dents or teeth, and to render their action less uncertain, he cements to the back of the caoutchouc, or India rubber, a piece of brown holland, or other like cloth. The plaintiff does not confine his claim to using India rubber, by means of slicing it; he claims the exclusive right of making cards, by fixing the dents or teeth in India rubber, using, for that purpose, cloth, some texture of linen or cotton. In some instances, he says, the cloth may be removed. That does not, in point of fact, make it less a part of the process, by which he applies cloth, for the putting the dents into the layer of India rubber. If that be so, I think it is evident the defendants claim to do a thing falling within the generality of the plaintiff's claim. Taking that to be so, the evidence is abundant to justify the jury in finding; and it seems to me to require them to find for the plaintiff." See, also, the observations of Erskine, J., cited *ante*.

§ 241. On the other hand, where the plaintiff had a patent for producing an effect in the manufacture of iron, said to be altogether new, by a mode or process, or series of processes, unknown before, it being for a combination of processes altogether new, leading to one end; and the defendants had used the same ingredients, but in different proportions, which constituted a mode of working essentially different from that pointed out in the specification, it was held that there was no infringement. The plaintiff's invention, in this case, consisted in rendering available the slags or cinders produced in the manufacture of iron; and, also, in the use and application of lime, subsequent to the blast-furnace, in order to prevent the quality called "cold short;" and his specification pointed out the proportion of slags, mine rubbish, coke, and limestone, to be used for the production of the effect. To prove the infringement, a witness in the employ of the defendants was called, who stated that he had seen the plaintiff's specification; that, since the date of the patent, the defendants preserved cinders, which they had not done before, and produced pig-iron, by mixing them with mine rubbish, and that, in the subsequent processes, they applied quick lime, to prevent the iron from being "cold short." But he stated that the defendants did not work by the plaintiff's specification, but used very different proportions, namely, lime, in the refinery-furnace, in about the proportion of one hundred and twentieth part to the whole charge of pig-iron, and that they used none in the puddling-furnace, and that the defendants had used slags in the puddling-furnace, for years before the date of the patent. He also proved, that the proportions of mine rubbish, as laid down in the specification, were not essential to the success of the process; that the defendants had been in the habit of varying those proportions; and that they once entirely omitted mine rubbish, when the result was most successful.[1]

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[1] Hill v. Thompson, Webs. Pat. Cas. 225, 232, 233.

§ 242. Now, this patent was one of that class, in which proportions or degrees, when specified, as the mode in which a particular effect is to be produced, make a part of the essence of the invention. A discovery may consist in the effect produced by the union of certain ingredients or agents; but, if a particular proportion is supposed to be necessary to the effect, and is claimed, as entering into the production of that effect, the subject-matter of the patent will be, the use of the particular ingredients in that particular proportion; and, if the same ingredients, in different proportions, or a part of the same ingredients, in other proportions, are used by another person, to produce a similar beneficial effect, more or less advantageous, that person will have discovered a new subject-matter, and, consequently, will not have infringed the right of a patentee, whose invention depends on the proportions which he has specified. Accordingly, it was held, in this case, that, the defendant's mode of working being essentially different from the specification of the plaintiff, they had not infringed his patent; and, if we apply to the reasoning of the Court, the test of a sufficiency of invention, on the part of the defendants, to support a patent, as for a new discovery, it will be seen that the same facts will lead to that result, which show that the plaintiff's patent had not been infringed.[1]

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[1] Dallas, J., delivering the judgment of the Court, said: — "To prove the infringement, one witness only was called; and this part of the case depends, therefore, entirely upon his testimony. And, before adverting to the evidence in question, it will be necessary to look to the patent, as far as it relates to this part of the subject. It has not been contended, that it is a patent introducing into use any one of the articles mentioned, singly and separately taken; nor could it be so contended, for the patent itself shows the controversy; and, if it had been a patent of such a description, it would have been impossible to support it; for slags had undoubtedly been made use of previously to the patent, so had mine rubbish, and so had lime. But, it is said, it is a patent for combinations and proportions, producing an effect altogether new, by a mode and process, or series of processes, unknown before; or, to adopt the language made use of at the bar, it is a patent for

§ 243. The superior utility of one thing over another, will sometimes furnish an important test upon this question of

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a combination of processes altogether new, leading to one end; and, this being the nature of the alleged discovery, any use made of any of the ingredients singly, or any use made of such ingredients in partial combination, some of them being omitted, or any use of all or some of such ingredients, in proportions essentially different from those specified, and yet producing a result equally beneficial, (if not more so,) with the result obtained by the proportions specified, will not constitute an infringement of the patent.

"It is scarcely necessary here to observe, that a slight departure from the specification, for the purpose of evasion only, would, of course, be a fraud upon the patent, and, therefore, the question will be, whether the mode of working by the defendant has, or has not, been essentially or substantially different. For this, we must look to the evidence of E. Forman; and, he being the single witness to the point, by his testimony this part of the case must stand or fall. It may be difficult entirely to reconcile different parts of his evidence with each other, if his answers to the several questions be taken separately and detached; but, looking to the result, it seems to be clear. On the part of the plaintiff, he proves that, before the patent was taken out, the defendants were not in the habit of making use of slags, and, that, his attention being called to the subject by the patentee, in the first instance, and then by the patent itself, he has made use of them uniformly since; he has since, also, at times, used mine rubbish, and also lime, which last, he also admits, was used to prevent the 'cold short,' which defect, he allows, was and is thereby prevented. So far, therefore, he proves separate use and occasional combination. He is next asked, as to the proportions mentioned in the patent, 'Did you apply the lime in these proportions?'— his answer is — 'I say no, to that.' 'Have you worked by the specification?' 'No, we did not.' He then explains in what respects they departed from the specification. This is his evidence on the examination-in-chief. On the cross-examination, he says, that the proportions used were very materially different, and that the proportions in the patent are not essential; that it would make no difference to him, if he were to be restrained from using these proportions. and that the result would be better obtained by materially departing from them; indeed, by almost losing sight of them altogether. With respect to slags, on reconsideration, he states, that the defendant had used slags, previously to the patent, in the puddling-furnace, for months together. As to mine rubbish, he says, we varied the proportions, and we found, in experience, that the use of it was best without reference to the preparations and restrictions pointed out in the specification, and, when omitted, the result was best of all. It is true, he afterwards

identity. It is not always true that one machine, for instance, is not an infringement upon another, because it is better than the other; for it may contain the whole substance of that other machine, and something in addition which makes it better; or, the patent may have been taken for an entire machine, substantially new in its structure, and the machine complained of may contain some substantial operating part of the machine patented, and so infringe. But where the

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states, that this omission took place when he was absent from home, and that, on his return, he ordered the mine rubbish to be restored; and, in this respect, and going to this single point, there appears to be an inconsistency But still, as the case stands on his single evidence, if, in substance and result, it proves a mode of working essentially different from the specification, the foundation of the plaintiff's case is altogether gone. And the rule is, in this respect, strict, as stated by Mr. Justice Buller, in the case of Turner *v.* Winter, (Webs. Pat. Cas. 77.) In that case, the learned judge expressed himself in these words: — 'Whenever the patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must show in what his invention consists, and that he procured the effect proposed, in the manner specified,' (Webs. Pat. Cas. 81); and, in another part of the same case, he adds: — 'Slight defects in the specification will be sufficient to vacate the patent,' (Webs. Pat. Cas. 82); and, speaking of degree and proportion, he says: — 'The specification should have shown by what degree of heat the effect was to be produced.' In that case, as in a great variety of others, instances may be found to show the strictness of the law, as bearing upon this point, either in regard of omission, or of superfluous addition, or of uncertainty or insufficiency in quantities proposed. But, further, the evidence, so applied, does not confine itself to this point only; for it disproves, also, utility, as far as it depends on combination and proportion, leading and conducing to a specific result. Neither can it be justly said, that the use of the separate ingredients, or some of them, partially combined, is a use made of the invention in part, so as to support the counts adapted to such partial use; because, as it has been already observed, and will more particularly be adverted to hereafter, each of the ingredients had before been separately used, and had been used, more or less, in partial combination.

"On the whole, our opinion is, as to this part of the case, that, considering the evidence of Forman, in its substance and result, and with reference to the peculiar nature of the patent, an infringement of the patent is not thereby proved." Hill *v.* Thompson, Webs. Pat. Cas. 244, 245, 246.

patent is for some one operating part of a machine, designed to effect a particular end, and the machine complained of effects that end materially better, by the use of means which are in point of fact different, then the two modes of operation are not the same under the Patent Law. In other words, when the means employed are, in point of fact, not the same, or a known mechanical equivalent, and the question to be determined is, whether they are, under the Patent Law, the same in substance, or, as it is usually called, the same in principle, superior utility settles that question. Two things are not the same under the Patent Law, when one is, practically, substantially better than the other, and this improvement is not gained by the use of known mechanical equivalents.

§ 244. This view of the Patent Law relieves it in a great degree from the uncertainties which have arisen, from the loose and indeterminate sense in which the word "principle" has been employed; and, at the same time, it is in exact accordance with the great purposes, as well as with the particular provisions of that system of law. Its leading purpose was to encourage *useful* inventions. Practical utility was its object; and it would be strange, if, with such object in view, it should consider two things as substantially the same, which, practically and in reference to their respective utility, are substantially different. And, although this test has not seldom been lost sight of, in the trial of patent causes, yet there is nowhere any authority opposed to it, and there is certainly much in its favor.[1]

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[1] Thus, in Davis *v.* Palmer, 2 Brock. 310; Mr. Chief Justice Marshall states the principle clearly. He was commenting on the clause in the old Patent Law, that "simply changing the form or the proportion of any machine, shall not be deemed a discovery;" and he says, in construing this provision, the word 'simply' has, we think, great influence; it is not every change of form and proportion, which is declared to be no discovery, but that which is simply a change of form and proportion, and nothing more. If, by changing the form and proportion, a *new effect* is produced, there is not simply a change of form and proportion, but *a change of principle also.*" To the same effect are the following cases: Earle *v.* Sawyer, 4 Mas. 1, where

§ 245. Every patent stands upon its subject matter, and, accordingly, the question of infringement depends upon the use of that which is covered by the patent. A patent may be for a new combination, whether the particular parts or things constituting that combination be new or old. But where the patent is for a combination, and not for several and distinct improvements, it is no infringement to use any of the parts or things which go to make up the combination, if the combination itself be not used.[1] But, in order to determine whether the combination is used, or whether there is an infringement, it may be necessary to inquire whether the defendant has employed a mechanical equivalent as a substitute for some material element of the plaintiff's combination.

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the substitution of a circular saw, in place of a reciprocating saw, in a shingle machine, was held to be a patentable improvement. — Davol *v.* Brown, 1 Woodb. & M. 53, where the arrangement of bowed flyers, in a fly-frame, in two rows, was held to be patentable, although open-bottomed flyers had previously been arranged in two rows, and geered in the same way, and bowed-flyers had been arranged in the one row with like geering. — Russell *v.* Cowley, Webs. Pat. Cas. 464, where it was held, that tubes having been welded by grooved rollers on a mandrill, it was a patentable improvement to weld them by grooved rollers without a mandrill; and Lord Lyndhurst puts the case of welding them by *fixed dies* instead of *rollers*. See also Kneass *v.* Schuylkill Bank, 4 Wash. 9; Crane *v.* Price, Webs. Pat. Cas. 409; Webster on the Subject-matter, &c. 26, n. t. 30; 1 Webs. Pat. Cas. 95.

In these cases, the principle is necessarily involved, and in some of them distinctly announced, that any change in the instruments employed, by which a new result is produced, or an old result produced in a more economical and beneficial manner, is the subject of a patent. It is an invention of a *new* thing, under the Patent Law. The same test is proposed by Mr. Webster, in his very able dissertation on the Subject-matter of Patents, page 27. He says, in substance, that the question is, whether the change be colorable and formal, or substantial and essential; that is, whether it be such as would of itself support a patent. The jury must find whether what is new is essential, or useless, and a colorable evasion; whether, by reason of the change, the thing has acquired a new and distinct character.

[1] Barrett *v.* Hall, 1 Mas. 447. See the observations of Mr. Justice Story, cited from this case, *ante*, p. 82; Evans *v.* Eaton, 1 Peters, C. C. R. 343.

If so, it will be an infringement. "In the specification of a patent for 'improvements in looms for weaving,' the plaintiff declared that his improvements applied to that class of machinery called power looms, and consisted 'in a novel arrangement of mechanism, designed for the purpose of instantly stopping the whole of the working parts of the loom whenever the shuttle stops in the shed.' After describing the manner in which that was done in ordinary looms, the specification proceeded thus: 'The principal defect in this arrangement, and which my improvement is intended to obviate, is the frequent breakage of the different parts of the loom, occasioned by the shock of the lathe or sley striking against the "frog," (which is fixed to the framing.) In my improved arrangement, the loom is stopped in the following manner: I make use of the "swell" and the "stop-rod finger," as usual, the construction of the latter, however, is somewhat modified, being of one piece with the small lever which bears against the "swell," but, instead of its striking a stop or "frog," fixed to the framing of the loom, it strikes against a stop or notch upon the upper end of a vertical lever, vibrating upon a pin or stud. The lever is furnished with a small roller, or bowl, which acts against a projection on a horizontal lever, causing it to vibrate upon its centre, and throw a clutch box (which connects the main driving pulley to the driving shaft,) out of gear, and allows the main driving pulley to revolve loosely upon the driving shaft, at the same time that a projection on the lever strikes against the "spring handle" and shifts the strap; simultaneously with these two movements, the lower end of the vertical beam causes a break to be brought in contact with the fly-wheel of the loom, thus instantaneously stopping every motion of the loom without the slightest shock.' After the date of the plaintiff's patent, the defendant obtained a patent for 'improvements in and applicable to looms for weaving, and amongst them he claimed a novel arrangement of apparatus for throwing the loom out of gear when the shuttle failed to complete its course. In the defendant's apparatus, the 'clutch-box' was not used,

but, instead of it, the 'stop-rod finger' acted on a loose piece or sliding frog; but, instead of a rigid vertical lever, as in the plaintiff's machine, the defendant used an elastic, horizontal lever, and, by reason of the pin travelling on an inclined plane, the break was applied to the wheel gradually, and not simultaneously. The jury found that the plaintiff's arrangement of machinery for stopping looms, by means of the action of the 'clutch box' in combination with the action of the break, was new and useful; also, that the plaintiff's arrangement of machinery, for bringing the break into connection with the fly-wheel, was new and useful; and that the defendant's arrangement of machinery for the latter purpose, was substantially the same as the plaintiff's: — *Held*, upon these findings, first, that the specification was good; secondly, that the defendant had infringed the patent."[1]

[1] Sellers *v.* Dickinson, 6 Eng. Law & Eq. R. 544; 20 Law J. Rep. (N. S.) Exch. 417.

Pollock, C. B.: "I am of opinion that the rule ought to be discharged. There are two points: first, whether there is any objection to the specification; next, whether there has been any infringement. These questions must be decided with reference to the findings of the jury, that the plaintiff's arrangement of machinery for stopping looms by means of the clutch box, in combination with the break, is both new and useful, and also that so much of the plaintiff's arrangement of machinery as the defendant has used, namely, that for bringing a break into connection with the fly-wheel, is of itself new and useful; and that what the defendant has used is substantially the same as the plaintiff's. Upon the facts so found, (for the question is not whether the evidence supported the findings,) I think the specification is good. The first finding is, that the arrangement of machinery for stopping looms, by means of the combined action of the clutch box and break, is new and useful. And I think that is sufficiently specified. The invention of the plaintiff is, in one point of view, simple. He calls it 'my invention of certain improvements in looms for weaving,' but he says, 'the improvements apply to that class of machinery known as power-looms, and consist in a novel arrangement of mechanism, designed for the purpose of instantly stopping the whole of the working parts of the loom whenever the shuttle stops in the shed.' He then describes the way in which he does it. He says, the common mode is performed in a certain manner; and he then goes on to describe his mode of separating the machine from the moving power, by

§ 245 *a.* Mr. Justice Curtis has held, that the doctrine of mechanical equivalents, in connection with such a use of a

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means of a clutch box; and he associates with that a break, the effect of which he thus expresses: 'Simultaneously with these two movements, the lower end of the vertical lever causes a break to be brought in contact with the fly-wheel of the loom, thus instantaneously stopping every motion of the loom without the slightest shock, at whatever speed the loom may be working.' Then comes his claim; and, I must say, that though, at first, I doubted whether the claim consisted of two parts, or of one only, yet, on reading the specification with that candor and indulgence with which a specification should be read, it appears to me to consist of one only. He says: 'I claim as my invention the above described novel arrangement of mechanism,' and we must understand the expression 'novel arrangement' to mean the same thing in the latter part of the specification as in the former; and it is clear that, in the former, it means one thing only. He says, 'my invention consists in a novel arrangement of mechanism for instantly stopping the loom.' Then he mentions the occasion when that would be required, viz., 'whenever the shuttle does not complete its course from one shuttle-box to the other,' by disconnecting the main driving pulley from the driving shaft; 'and also, (which ought to be read 'and by') the method of bringing a break into connection with the fly-wheel, for the purpose of preventing the lathe or sley from beating up any farther and injuring the cloth by the shuttle stopping in the shed, or between the warp threads.' That being the case, the specification is free from objection. The second question is, whether the patent has been infringed. It was argued that there can be no infringement of a patent for a combination, unless the defendant has used the whole combination. But that is not so, for there may be an infringement by using so much of a combination as is material, and it would be a question for the jury, whether that used was not substantially the same thing. I recollect a patent for an invention, a part of which, at first supposed to be useful, turned out to be prejudicial, and was afterwards left out, but the patent was, nevertheless, sustained. If that had been a combination of matter, each of them old, but entirely new as a combination, and the jury had found that the substantial parts of the combination were used, that, I think, would have been an infringement of the patent. Looking at this patent fairly, what is it for? It is for a mode to separate the machine from the source of power, and, at the same time, to stop the momentum which has already accumulated, and to do this by one and the same operation; in fact, to make the machine itself do it. Whenever the shuttle remains among the sheds, and does not arrive at the shuttle-box, the machine is so constructed, that, by one operation it is thrown out of gear, and, at the same time, a break is applied to the fly-wheel

material part of a combination, is not confined by the Patent Law to those elements which are strictly known as such in

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so as to stop the momentum. The defendant has substituted for the clutch box the old plan of the 'frog,' and, instead of separating the power and the machine by a clutch box, and so throwing the machine out of gear, he has used the old method of throwing off the strap, but he has adopted the break, which the jury have found is, in itself, an arrangement of machinery new and useful. We are not now to decide what would have been the plaintiff's rights if the clutch box had been entirely new, and the plaintiff had complained of its use; but I think it may be laid down as a general proposition, (if a general proposition can be laid down on a subject applicable to such a variety of matters, indeed incommensurable with each other, for the same doctrine would scarcely apply to a medicine and a new material or new metal,) that, if a portion of a patent for a new arrangement of machinery is in itself new and useful, and another person, for the purpose of producing the same effect, uses that portion of the arrangement, and substitutes for the other matters combined with it another mechanical equivalent, that would be an infringement of the patent. It appears to me, therefore, with reference to the facts found by the jury, that the specification is good, and that the defendant has infringed the patent."

Rolfe, B.; "I am also of opinion that the rule ought to be discharged. The chief question is, the construction of the specification. The patentee claims, in my opinion, a matter entirely new, subject to a qualification I shall presently mention. I form this opinion from reading the specification as a person of ordinary understanding would do, not loosely conjecturing any thing, but, at the same time, not scanning it as if it were a special plea; and I must say, it is one of the fairest specifications I have seen, and is calculated fully to express the invention. The plaintiff begins by saying that his improvements 'consist in a novel arrangement of mechanism, designed for the purpose of instantly stopping the whole of the working parts of the loom, whenever the shuttle stops in the shed.' It is well known that, in working the power loom, it occasionally happens that the shuttle gets entangled in the warp, and, if the machine be not instantly stopped, the whole fabric is liable to be damaged. The plaintiff then proceeds to tell in what mode that has hitherto been effected; and, for this purpose, it is not necessary to consider whether he has, in point of fact, correctly stated the mode, but, in construing what his improvements are, we must consider them with reference to that which he describes as the present mode, and which he says is this. [His Lordship read that part of the specification.] In plain language, formerly there was such a contrivance of machinery, that, whenever the shuttle got entangled, in an instant a certain part of the machine, which he calls the

the science of mechanics, but that it embraces those substitutions, which, as a matter of judgment in construction, may

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'finger,' struck against the thing called the 'frog,' which was fixed to the framework of the machine, the effect of which was to throw the work out of gear, by throwing the strap of the fast pulley on to the loose pulley. He then states what he conceives to be the defects of the old mode. [His lordship read that portion of the specification.] That is to say, whereas, heretofore, the strap has been thrown off by the finger striking against the framework, and by a certain apparatus which shifted it from the fast pulley on to the loose pulley, now I contrive to avoid that shock, by making the finger strike on a vertical lever, vibrating on a pin or stud, and not on a part of the framework; the result of which is, that, by a certain arrangement, afterwards described, the strap is thrown off. I do not see that the clutch box is claimed as an invention. He conceives that the best mode of fixing on the machinery is with a clutch box, and, in substance, he says, my improvement, which mainly consists in striking the vertical lever, whether in connection with a clutch box or not, has the effect of throwing the machine out of gear, as was done before, but without the violence of the shock. And he then adds, 'simultaneously with those two movements, the break is brought in contact with the fly wheel.' [His lordship read that part of the specification.] It is wrong to suppose that, in this specification, the words 'stopping every motion of the loom,' necessarily mean the moving power. They are used very generally for 'stopping the momentum which the machine has acquired.' Then, what is it the plaintiff has claimed? Why, whereas, formerly, the mode of stopping the machine was by throwing off the strap by means which caused a violent jar, I have introduced an arrangement of machinery which shall have the same effect of throwing off the strap, as before, but without that jar, and I mention a clutch box, because I consider that the best mode of fixing on the wheels; and, simultaneously, I introduced that, which the jury has found to be a complete novelty; I check the momentum already acquired, by making the same machinery apply the break to the fly wheel. Can any thing be more clear? It seems to me wholly a new invention; except, indeed, if the plaintiff had proceeded against any person for using the clutch box, or for throwing the strap off the pulleys, he could only have succeeded by showing that they had done so by means of the vertical lever. The whole of the application of the break is a novelty; as to the other part, he does not profess it to be a novelty; on the contrary, he states exactly how it was done before, and points out what his distinctions are; and then, after having described, in detail, the mode of making the machinery operate, he says, 'I claim as my invention,' &c. [His lordship read that part of the specification.] It seems to me, therefore, that, looking

be employed to accomplish the same end.[1] This seems to be the doctrine of the case last cited.

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at the construction of this specification, what the plaintiff claims is a new invention altogether, by making the stoppage consist in the striking of a finger, (nearly, but not quite, in the same position as in the old machine,) not against the framework, but against a lever, arranged in the mode which he has detailed in that part of the specification which I have referred to, and which has the same effect that the former mahine had, of throwing the strap off, whether there be a clutch box or not; and then there is introduced a new element altogether, namely, a break, which, at the same time that the machinery is put out of gear, has the effect of stopping the fly wheel. That is the construction of the specification. Then, I think, that, when the complaint is, that the infringement has been of that which is found to be entirely new, the learned judge was perfectly right in his direction to the jury. The question was not whether there had been any infringement of the combination of the clutch box and the break, but whether the defendant imitated that one thing, namely, the application of the break to the fly wheel, through the momentum of the sley. For that reason, there having been no misdirection, and the specification being good, the rule must be discharged."

Platt, B.: "I am of the same opinion. Until the year 1845, there was no means of stopping the power loom, when the shuttle failed to perform its course, without causing a violent shock. The plaintiff applied his ingenuity to the subject, and elaborated a mechanical contrivance for stopping the loom instantaneously, and without any shock. That is effected by a combination of machinery which the jury has found to be new and useful, and by which, at the same moment, the loom is put out of gear, and the fly wheel is instantaneously stopped, by a pressure equivalent to the velocity of the machine at the time; because we all know that the momentum of the machine depends on the quantity of matter multiplied into the velocity, and, the quantity of matter being always the same, of course the pressure would be in proportion to the velocity of the machine. The counteracting force which would be used for destroying its momentum would always be in proportion, and, therefore, it would create an absolute stability, or rather it would produce actual quiet, because two forces of the same amount opposed to each other in opposite directions destroy each other. Certainly a most ingenious invention. Then, the next question is, whether the plaintiff, having made this invention, has properly described it in his specification. He first points out the object of his improvement, namely, 'instantly stopping' the whole of the working parts of the loom, whenever the shuttle stops in the shed. Then, after

[1] Foster *v.* Moore, 1 Curtis's Reports. See also the case of Newton *v.* The Grand Junction Railway Company, 6 Eng. Law & Eq. R. 557.

§ 246. But, on the other hand, where the patent is for several distinct improvements or things, and does not stand upon the combination of such things, then the use of any one of them will be an infringement.[1] But, in order to succeed in an action for the infringement of any one of such improvements, it was formerly necessary with us, as in England, that the whole of the improvements claimed as such should be new; and, if the novelty of any one of them failed, though it might not be the one used by the defendant, the action could not be sustained. The reason for this was, not that the right of the patentee would not have been infringed, if he had had a valid patent, but that his patent was void, on account of a partial failure of the whole consideration on which it was granted; the consideration on which a patent was granted being the novelty of all the things represented to be new, regarded as an entirety; and, the consideration being entire, if it failed in part, it failed as to the whole. The government was, in such a case, deceived in its grant: the whole patent was therefore inoperative, and no action could be maintained upon it.[2]

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giving an account of the mode in which looms were stopped up to that time, he states the manner in which he proposes to do it; and then he concludes by stating, that, simultaneously with these two movements, the break is brought in contact with the fly wheel. Surely, any one who reads that specification must understand what the object of the invention was, and the mode by which it is to be effected is most universally described. Then, what does the plaintiff claim? He says, 'I claim, as my invention, the above described novel arrangement of mechanism.' What for? 'For stopping the loom, whenever the shuttle does not complete its course from one box to the other.' Then he shows how that is done: 'By disconnecting the main driving pulley from the driving shaft, and also the method (which the context requires to be read 'and by the method') of bringing a break in connection with the fly wheel, for the purpose of preventing the lathe or sley from beating up any farther,' &c. Therefore, it seems to me that the specification most distinctly describes the invention; and, the jury having found that it is new and useful, and that the act of the defendant was substantially an infringement of it, the rule ought to be discharged."

[1] Moody *v.* Fisk, 2 Mas. 115.

[2] In Moody *v.* Fisk, 2 Mas. 112, 115, Mr. Justice Story hinted at this

§ 247. The statute of July 4, 1836, § 15, recognizes this doctrine, by establishing as a defence that the patentee was

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doctrine, when he said that, "In such a case, the patent goes for the whole of the improvements, *and if each be new and be claimed distinctly in the patent*, there does not seem to be any good reason why the party who pirates any part of the invention should not be liable in damages." The subsequent cases in England, of Hill *v.* Thompson, 8 Taunt. 382; 2 B. Moore, 433; Webs. Pat. Cas. 239; Brunton *v.* Hawkes, 4 B. & Ald. 541; and Morgan *v.* Seaward, 2 M. & W. 544; Webs. 187; have fully established this doctrine. In the last of these cases, Mr. Baron Parke, delivering the judgment of the Court, said, "This brings me to the question whether this patent, which suggests that certain inventions are improvements, is avoided if there be one which is not so; and, upon the authorities, we feel obliged to hold that the patent is void, upon the ground of fraud on the crown, without entering into the question whether the utility of each and every part of the invention is essential to a patent, where such utility is not suggested in the patent itself as the ground of the grant. That a false suggestion of the grantee avoids an ordinary grant of lands and tenements from the crown, is a maxim of the common law, and such a grant is void, not against the crown merely, but in a suit against a third person. It is on the same principle that a patent for two or more inventions, when one is not new, is void altogether, as was held in Hill *v.* Thompson, 2 Moore, 424, 8 Taunt. 375, and Brunton *v.* Hawkes, 4 B. & Ald. 542; for, although the statute invalidates a patent for want of novelty, and consequently, by force of the statute, the patent would be void so far as related to that which was old, yet the principle on which the patent has been held to be void altogether is, that the consideration for the grant is the novelty of all, and, the consideration failing, or, in other words, the crown being deceived in its grant, the patent is void, and no action maintainable upon it. We cannot help seeing, on the face of this patent, as set out in the record, that an improvement in steam-engines is suggested by the patentee, and is part of the consideration for the grant; and we must reluctantly hold that the patent is void, for the falsity of that suggestion. In the case of Lewis *v.* Marling, (10 B. & C. 22; 5 M. & Ry. 66,) this view of the case, that the patent was void for a false suggestion, does not appear by the report to have been pressed on the attention of the Court, or been considered by it. The decision went upon the ground that the brush was not an essential part of the machine, and that want of utility did not vitiate the patent; and, besides, the improvement by the introduction of the brush is not recited in the patent itself as one of the subjects of it, which may make a difference. We are, therefore, of opinion, that the defendants are entitled to our judgment on the third issue." See, also, the elaborate judgment in Brunton *v.* Hawkes.

not the first inventor of the thing patented, "or of a substantial and material part thereof claimed as new." But a more recent statute has provided that the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bonâ fide* the invention or discovery of the patentee, if it is a material and substantial part of the thing patented, and is definitely distinguishable from the other parts which the patentee had no right to claim, notwithstanding the specification may be too broad, if it was so made by mistake, accident, or inadvertence, and without any wilful default or intent to defraud or mislead the public."[1] This leaves the former doctrine, by which a failure of novelty in any part vitiated the whole patent, still applicable to cases where the claim was made too broad, wilfully and knowingly, or with intent to defraud or deceive the public.

§ 248. The effect of a failure, in point of utility of one or more of several parts or things claimed as distinct inventions, is held, in England, to be the same as a failure in point of novelty. If any thing claimed as essential turn out to be useless, the patent is voidable, provided it was known to the patentee, at the time of enrolling his specification, to be useless, because he misleads the public by representing it to be useful; but if it was subsequently discovered not to be useful, material, or necessary, it forms no ground of objection to the patent.[2] A patent for an entire machine or other subject which is, taken altogether, useful, though a part or parts may be useless, will be valid, provided there is no false suggestion.[3] So, too, a finding of the jury, that the invention is useful on the whole, but fails or is not useful in some cases, is not a ground of nonsuit.[4] But these cases are entirely distinguished

[1] Act of 1837, § 9.

[2] Lewis *v.* Marling, 10 B. & C. 22; 4 Car. & P. 57; Webs. Pat. Cas. 493.

[3] Morgan *v.* Seaward, Webs. Pat. Cas. 197.

[4] Harworth *v.* Hardcastle, Webs. Pat. Cas. 480, 483. In this case, Sir N. C. Tindal, C. J., said, "The motion for entering a nonsuit was grounded

from those where the purpose wholly fails, and the invention described does not accomplish the effect that is claimed for it. On a patent of this description, of course no action whatever can be maintained.[1]

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on two points; first, that the jury had, by their special finding, negatived the usefulness of the invention to the full extent of what the patent and specification had held out to the public; secondly, that the patentee had claimed, in his specification, the invention of the rails or staves over which the cloths were hung, or, at all events, the placing them in a tier at the upper part of the drying room. As to the finding of the jury, it was in these words: "The jury find the invention is new and useful upon the whole; and that the specification is sufficient for a mechanic, properly instructed, to make a machine, and that there has been an infringement of the patent; but they also find that the machine is not useful in some cases for taking off goods. The specification must be admitted, as it appears to us, to describe the invention to be adapted to perform the operation of removing the calicoes and other cloths from off the rails or staves, after they have been sufficiently dried. But we think we are not warranted in drawing so strict a conclusion from this finding of the jury as to hold, that they have intended to negative, or that they have thereby negatived, that the machine was useful in the generality of the cases which occur for that purpose. After stating that the machine was useful on the whole, the expression that 'in some cases it is not useful to take up the cloths,' appears to us to lead rather to the inference that in the generality of cases it is found useful. And if the jury think it useful in the general, because some cases occur in which it does not answer, we think it would be much too strong a conclusion to hold the patent void. How many cases occur, what proportion they bear to those in which the machine is useful, whether the instances in which it is found not to answer are to be referred to the species of cloth hung out, to the mode of dressing the cloths, to the thickness of them, or to any other cause distinct and different from the defective structure or want of power in the machine, this finding of the jury gives us no information whatever. Upon such a finding, therefore, in a case where the jury have given their general verdict for the plaintiff, we think that we should act with great hazard and precipitation, if we were to hold that the plaintiff ought to be nonsuited, upon the ground that his machine was altogether useless for one of the purposes described in his specification."

[1] Manton *v.* Parker, Dav. Pat. Cas. 327. This was a patent for "a hammer on an improved construction, for the locks of all kinds of fowling-pieces and small arms;" and a material part of the invention consisted in a means of letting out the air from the barrel and causing a communication between

§ 249. The principles of our law would apparently lead to the same conclusions upon this subject; for, although it is not material, whether the subject-matter of a patent is more or less useful, it must possess some utility; and, if the subject-matter consists of several things, all included in one patent, but claimed as the distinct inventions of the patentee, a failure of any one of them, in point of utility, must vitiate the patent, if it was represented to be useful, when it was known not to be so, for the same reasons which are applicable in England. Our statute, moreover, has expressly provided, as one of the defences to an action on a patent, "that it contains more than is necessary to produce the described effect," when such addition "shall fully appear to have been made for the purpose of deceiving the public;" that is to say, when it appears that the patentee was aware that he was introducing something not useful, material, or necessary, at the time of preparing his specification.[1]

§ 250. The rule of damages for the infringement of a patent is provided by statute in the following terms: "that, whenever in any action for damages for using or selling the thing whereof the exclusive right is secured by any patent heretofore granted, or which shall hereafter be granted, a verdict shall be rendered for the plaintiff in such action, it shall be in the power of the court to render judgment for any sum above the amount found by such verdict as the actual damages sustained by the plaintiff, not exceeding three times the amount thereof, according to the circumstances of the case."[2]

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the powder in the pan and in the barrel, without, at the same time, letting out the powder. The witnesses for the defendant having proved that the powder passed through the same hole as the air, the plaintiff was nonsuited.

[1] Act of July 4, 1836, § 15.

[2] Act of July 4, 1836, § 14. In Guyon *v.* Smith, 1 Blatchford's R. 244, Mr. Justice Nelson said: "The fourteenth section of the Act of July 4th, 1836, empowers the Court to render judgment for any sum above the amount found by the jury as the actual damages sustained by the plaintiff, not ex-

By the terms "actual damages, sustained by the plaintiff," are meant such damages as he can actually prove, and has

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ceeding three times such amount, according to the circumstances of the case, with costs. The Act of April 17, 1800, (2 U. S. Stat. at Large, 38, § 3,) fixed the amount of the recovery at three times the actual damages sustained. It now rests in the discretion of the Court.

The Act of March 3d, 1837, (5 U. S. Stat. at Large, 193, § 7,) authorizes a disclaimer by the patentee, in cases where, through inadvertence, accident, or mistake, the specification of his claim is too broad. It is not, however, to affect any action pending at the time of the filing of the disclaimer, except in respect to the question of unreasonable neglect or delay in filing the same. The ninth section of the same act allows an action to be maintained for an infringement of such part of the invention as may properly belong to the patentee, notwithstanding the claim may be too broad, if it be made to appear that the error occurred through mistake, and without wilful default, but provides that the plaintiff shall not be entitled to costs against the defendant, unless the disclaimer shall have been filed before the commencement of the suit.

In this case, the disclaimer was filed after the suit was brought, and, of course, the plaintiff is not entitled to costs; and it is urged, from the phraseology of the fourteenth section of the Act of 1836, that the case is one in which the Court has no power to increase the verdict. That section authorizes an increase to not exceeding three times the amount, 'with costs.' Here no costs can be awarded. But costs follow, as a general rule, against the defendant, upon judgment being rendered on a verdict against him for single or actual damages; and, when the verdict is increased, the costs still remain a part of the judgment, as no power is given by the section to withhold them. They do not depend upon the power of the Court to increase the verdict, but upon statute authority, wholly independent of such power. The power given to the Court by the fourteenth section is a power only to increase the damages, and not a power over the costs. The words 'with costs' add nothing, as the defendant was already liable for the costs, if liable for them at all. The increase of the verdict cannot operate either to award or to withhold them. The words were probably added, from abundant caution, to exclude any inference of an intention to limit the amount of the judgment to the precise sum as increased, which would have excluded the costs. The ninth section of the Act of 1837 simply withholds costs in cases where the disclaimer is not filed till after the commencement of the suit, leaving the damages unaffected. The rights of the plaintiff and the power of the Court in respect to the damages, remain the same as if costs were allowed. We are unable, therefore, to perceive any ground for

in fact sustained, as contradistinguished from mere imaginary or vindictive damages, which are sometimes given in personal torts.[1] These damages will be trebled by the court, according to the statute.[2]

§ 251. In estimating the "actual damage," the rule is, in cases of infringement by an actual use of the plaintiff's invention — as by making and using a patented machine — to give the value of such use during the time of the illegal user, that is to say, the amount of profits actually received by the defendant.[3] To this, it seems there should also be added all the losses to which the plaintiff has been subjected by the piracy.[4]

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denying the power of the Court to increase the damages in this case, under the fourteenth section of the Act of 1836.

We think, however, that the provisions of the section afford ground for the consideration of the Court, in the exercise of their discretion upon this application. The party infringing the patent may have been misled by the specification, and have honestly supposed that it was void, and afforded no protection to the patentee. The actual damages for the infringement would, therefore, seem, as a general rule, to be all that could be reasonably claimed. There may be exceptions. Cases may arise, where the circumstances are aggravated, and such as to repel altogether the *bona fides* of the infringement, in which the power to increase the verdict should be exercised. Each case must depend upon its own circumstances.

There is some evidence, here, tending to impeach the good faith of the defendants. But, as they abandoned their machine some time before the commencement of the suit, and have not since put it in operation, and as the damages recovered are, probably, fully equal to the actual injury sustained after the machine was altered so as to infringe upon the plaintiff, we are of opinion, under all the circumstances, that the case is not one in which the Court should interfere. The motion would not, probably, have been made if the plaintiff could have recovered costs, as there is nothing in the case, beyond this, to distinguish it particularly from others of this description occurring daily in the Court.

[1] Whittemore *v.* Cutter, 1 Gallis. 429. It seems, however, that, if the defendant is sued a second time for an infringement, exemplary damages may be given. Alden *v.* Dewey, 1 Story's R. 336, 339.

[2] Lowell *v.* Lewis, 1 Mas. 184, 185; Gray *v.* James, Peters's C. C. R. 394.

[3] Lowell *v.* Lewis, 1 Mas. 184, 185; Whittemore *v.* Cutter, 1 Gallis. 429.

[4] In Earle *v.* Sawyer, 4 Mas. 1, 12, Mr. Justice Story said: "But I wish

§ 252. But where merely the making of a patented machine is proved, as no actual damages have been sustained,

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to say a few words in relation to the point of law, which the objection suggests, and which is founded upon the decision of this Court, in the case of *Whittemore* v. *Cutter*, (1 Gallis. R. 479.) To that decision, as founded in just principle, I still adhere, although, I confess, with subdued confidence, since I have reason to believe, that it has not met the entire concurrence of other and abler judicial minds. It has been maintained, by some learned persons, that the price of the invented machine is a proper measure of damages, in cases where there has been a piracy by making and using the machine, because, in such cases, the verdict for the plaintiff entitles the defendant to use the machine subsequently, and, in short, transfers the right to him in the fullest manner, and in the same way that a recovery in trover or trespass, for a machine, by operation of law, transfers the right to such machine to the trespasser, for he has paid for it. If I thought such was the legal operation of a verdict for the plaintiff, in an action for making and using a machine, no objection could very forcibly occur to my mind against the rule. But my difficulty lies here. The patent act gives to the inventor the exclusive right of making and using his invention, during the period of fourteen years. But this construction of the law enables any person to acquire that right, by a forced sale, against the patentee, and compels him to sell, as to persons or places, when it may interfere essentially with his permanent interest, and involve him in the breach of prior contracts. Thus, the right would not remain exclusive; but the very attempt to enforce it would involve the patentee in the necessity of parting with it. The rule itself, too, has no merit from its universality of application. How could it apply, when the patentee had never sold the right to any one? How, when the value of the right depended upon the circumstance of the right being confined to a few persons? Where would be the justice of its application, if the invention were of enormous value and profit, if confined to one or two persons, and of very small value if used by the public at large, for the result of the principle would be, that all the public might purchase and use it by a forced judicial sale. On the other hand, cases may occur, where the wrong done to the patentee may very far exceed the price which he would be willing to take for a limited use by a limited number of persons. These, among others, are difficulties which press on my mind against the adoption of the rule; and, where the declaration goes for a user during a limited period, and afterward the party sues for a user during another and subsequent period, I am unable to perceive, how a verdict and judgment in the former case is a legal bar to a recovery in the second action. The piracy is not the same, nor is the gravamen the same. If, indeed, the plaintiff, at the trial, consents that the defendant shall have the full benefit of the machine forever, upon

nominal damages only should be given.[1] But if there is a making for, and selling to be used, full damages may be

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the ground of receiving the full price in damages, and the defendant is content with this arrangement, there may be no solid objection to it in such a case. But I do not yet perceive how the Court can force the defendant to purchase, any more than the plaintiff to sell, the patent-right, for the whole period it has to run. The defendant may be an innocent violator of the plaintiff's right; or he may have ceased to use, or to have employment for, such a machine. There are other objections alluded to in the case in 1 Gallis. R. 484.

Struck with similar difficulties, in establishing any general rule to govern cases upon patents, some learned judges have refused to lay down any particular rule of damages, and have left the jury at large to estimate the actual damages, according to the circumstances of each particular case. I rather incline to believe this to be the true course. There is a great difference between laying down a special and limited rule, as a true measure of damages, and leaving the subject entirely open, upon the proofs in the cause, for the consideration of the jury. The price of the machine, the nature, actual state and extent of the use of the plaintiff's invention, and the particular losses, to which he may have been subjected by the piracy, are all proper ingredients to be weighed by the jury in estimating the damages, *valere quantum valeant.*"

See also the observations of Lord Justice Clerk Hope, in the Household Company *v.* Neilson, cited Webs. Pat. Cas. 697, *note.* In Pierson *v.* The Eagle Screw Company, 3 Story's R. 410, Mr. Justice Story again said: "But, upon the question of damages, I would, upon this occasion, state, (what I have often ruled before,) that, if the plaintiff has established the validity of his patent, and that the defendants have violated it, he is entitled to such reasonable damages as shall vindicate his right, and reimburse him for all such expenditures as have been necessarily incurred by him, beyond what the taxable costs will repay, in order to establish that right. It might otherwise happen, that he would go out of Court with a verdict in his favor, and yet have received no compensation for the loss and wrong sustained by him. Indeed, he might be ruined by a succession of suits, in each of which he might, notwithstanding, be the successful party, so far as the verdict and judgment should go. My understanding of the law is, that the jury are at liberty, in the exercise of a sound discretion, if they see fit, (I do not say that they are positively and absolutely bound under all circumstances) to give the plaintiff such damages, not in their nature vindictive, as shall compensate the plaintiff fully for all his actual losses and injuries, occasioned by the violation of the patent by the defendants."

[1] Whittemore *v.* Cutter, *ut supra.*

given; and they may be estimated, by ascertaining the proper price for a license to make and sell the same number of articles, under the plaintiff's patent.[1]

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[1] Hogg *v.* Emerson, 11 Howard, 587, 607. In this case, the Court said: "It is true, that the verdict appears large in amount. But, if too large, and the jury were properly instructed on the subject, the fault is their's, rather than the Court's, and cannot be corrected here.

It is not, however, clear that it is too large, as it does not appear to have exceeded, and, indeed, it rather falls short of, the price paid for a license to make an improvement like this, to be used in so many vessels. It is the making and selling to be used, and not the selling or buying or making alone, for which full damages are usually given. (10 Wheaton, 350; Curtis on Pat. 256, note 3; 3 McLean, 427.) The Court, therefore, being called on to lay down some general rule, very properly informed the jury, that such price might be a suitable guide, and it is the customary one followed for making patent stoves, lasts, spokes, &c., and seems once to have been treated by law as the chief guide in all patent cases; as the Act of 1791, § 5, (1 Stat. at Large, 322,) gave three times its amount, when one either made for sale or used a patented machine.

But that law being repealed, and the damages now left open for each case, the judge correctly added, that a fair ground existed for a mitigation below that amount, if the maker of the machine appeared, in truth, to be ignorant of the existence of the patent-right, and did not intend any infringement. That would not, however, furnish a reason, as was insisted by the plaintiff in error, for allowing no damages, when making the machine *to be used*, and not, as in some cases, merely for a model, or for fancy, or philosophical illustration. (Whittemore *v.* Cutter, 1 Gallis. 429; Jones *v.* Pearce, Webster's P. C. 125; 3 McLean, 583.) The intent not to injure, also, never exonerates, as is contended in these cases, from all damages for the actual injury or encroachment, though it may mitigate them. (Bryce *v.* Dorr, 3 McLean, 583.) The further general suggestion, by the judge, to give only the actual damages, was well calculated to prevent any thing vindictive or in excess, and justified the jury to go still lower than they did, it appearing just to them, and as has sometimes been done in this class of cases. (See Lowell *v.* Lewis, 1 Mason, C. C. 182; 1 Gall. C. C. 420.)

That, however, was a matter of discretion for the jury, under all the circumstances, and not a question of law for the Court.

Nor will the consequences of damages, so large as the present, seem harsh, if, thereby, any further recovery should be prevented for using or selling, as well as making the machine, but which point is not decided by us

§ 253. Where patented articles (cast-iron water-wheels,) were manufactured by the defendants, on an order given by a third person, and the order was partially executed before the defendants had notice of the patent, and two wheels only were cast after notice, it was held, that nominal damages only were proper.[1]

§ 254. It was formerly doubted, whether the jury were at liberty to allow, as part of the actual damage, the counsel fees and expenses of witnesses, beyond the taxable costs incurred by the plaintiff, in vindicating his right. But it is now the established rule and practice to allow them.[2]

§ 255. As to the time of the acts complained of, as amounting to an infringement, it is obvious that the patent cannot be infringed by any thing done when the patent did not exist; and, therefore, it is no infringement to make or use a machine subsequently patented, or otherwise to prac-

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now, because not raised on the record. It may be added, however, in this connection, that the defendants are certainly relieved now from one consequence, by way of damages or penalty, which once existed, and which was to forfeit the materials of the machine to the patentee. (See section 4th in Act of April 10th, 1790, 1 Stat. at Large, 111.) It must be a very extreme case, too, where a judgment below should be reversed, on account of damages like these, in actions *ex delicto;* and, when the instructions suggested to the jury the true general rule, and the leading ground for mitigation as well as against excess, and when, if appearing to be clearly excessive, under all circumstances, a new trial could have been moved and had, on that account, in the Circuit Court."

[1] Bryce *v.* Dorr, 3 McLean, 582.

[2] Boston Manuf. Co. *v.* Fiske, 2 Mason, 119, 120. In England, damages at law are generally only nominal. Lewis *v.* Marling, Webs. Pat. Cas. 493, n. The plaintiff is not entitled to damages in a second action, as of right. Minter *v.* Mower, Ibid. 138. Damages should consist of profits and compensation, for the infraction of the right. The Household Co. *v.* Neilson, *Ibid.* 697. *Semble*, that acts done in reliance on a former verdict against a patent, are evidence in reduction of damages. Arkwright *v.* Nightingale, Ibid. 61.

tise the invention which is afterwards made the subject of a patent, before the patent is obtained. But, when a patent is granted, the right in the subject-matter relates back to the time of the invention, so that the party who has practised the invention, between the time of the discovery and the issuing of the patent, must cease to do so. Any acts of infringement, done after the issuing of the patent, will be ground for the recovery of damages, although the previous acts were done at a time, when it was uncertain whether there would be any patent issued.[1] The same is true of acts done in violation of a patent, which is surrendered and renewed on account of defects in the specification. If a party erect and put in use a patented machine, during the existence of a defective patent, which is afterwards surrendered, it will be an infringement of the new and renewed patent, if he continues the use of such machine after the renewal; and it seems that no notice of the renewal is necessary; and, if it is, that knowledge of the original patent will be notice of the renewed patent, granted in continuation of it, according to the provisions and principles of law.[2]

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1 Evans *v.* Weiss, 2 Wash. 342; Dixon *v.* Moyer, 4 Wash. 68.

2 Ames *v.* Howard, 1 Sumner, 482, 488. In this case, Mr. Justice Story said: — "The next objection is, that, in point of law, the plaintiff is not entitled, without some previous notice or claim, to maintain this action, under his patent, against the defendants, for continuing the use of the machines erected and put in use by them, before the patent issued. This objection cannot prevail. I am by no means prepared to say, that any notice is, in cases of this sort, ever necessary, to any party who is actually using a machine in violation of the patent-right. But it is very clear, that, in this case, enough was established in evidence to show, that the defendants had the most ample knowledge of the original patent taken out by the plaintiff, in 1822, and of which the present is only a continuation, being grounded upon a surrender of the first, for mere defects in the original specification. Whoever erects or uses a patented machine, does it at his peril. He takes upon himself all the chances of its being originally valid; or of its being afterwards made so, by a surrender of it, and the grant of a new patent, which may cure any defects, and is grantable according to the principles of

§ 256. A patentee may recover damages for an infringement, during the time which intervened between the destruction of the Patent Office by fire, in 1836, and the restoration of the records, under the Act of March 3, 1837.[1]

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law. That this new patent was so grantable is clear, as well from the decision of the Supreme Court, in Grant *v.* Raymond, (6 Peters, R. 218,) as from the Act of Congress of the 3d of July, 1838, ch. 162. There is no pretence to say, that the defendants were *bonâ fide* purchasers, without any knowledge or notice of any adverse claim of the plaintiff, under this original patent; and the damages were, by the Court, expressly limited to damages which accrued to the plaintiff, by the use of the machine, after the new patent was granted to the plaintiff."

[1] Hogg *v.* Emerson, 6 How. 437.

CHAPTER II.

OF THE REMEDY FOR AN INFRINGEMENT BY ACTION AT LAW.

§ 257. The Act of Congress of July 4, 1836, c. 357, § 14, provides, that damages may be recovered for an infringement, by "an action on the case;" a remedy which exists equally at common law, for the violation of the right secured by letters-patent.[1]

§ 258. I. *Parties.* The statute also provides, that the action shall be brought in the name or names of the person or persons interested, whether as patentee, assignees, or as grantees of the exclusive right, within and throughout a specified part of the United States."[2]

§ 259. Formerly, the grantee for a particular district could not bring an action on the patent in his own name.[3] But the statute has made him a party interested in the patent, and, consequently, in his own district, he may sue in his own name.[4]

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[1] Bull. N. P. 76.

[2] Act of July 4, 1836, c. 357, § 14. It seems that no previous notice, or claim of a right to the exclusive use of an invention, is necessary, to enable a patentee to maintain an action, for an alleged violation of his patent-right. Ames *v.* Howard, 1 Sumner, 482.

[3] Tyler *v.* Tuel, 6 Cranch, 324.

[4] Such a suit may be maintained, although the plaintiff is the grantee of a right to use only a limited number of the patented machines in the particular districts, provided it is an exclusive right, and it may be maintained against the patentee himself. Wilson *v.* Rousseau, 4 Howard, 646.

§ 260. Where the patentee has assigned his whole interest, either before or after the patent was taken out, the action can only be brought in the name of the assignee;[1] but where the assignment is of an undivided part of the interest, the action should be brought in the joint names of the patentee and the assignee, as representing the whole interest.[2] If the assignment has not been made, but has been merely agreed to be made, the action should be in the name of the patentee, the assignee not having the interest until the assignment has been made and recorded.[3] But it may be recorded at any time after the suit is brought and before trial.[4] An action for an infringement may be maintained against a corporation.[5]

§ 261. The Supreme Court of the United States have held that a covenant by a patentee, made prior to the law authorizing extensions, that the covenantee should have the benefit of any improvement in the machinery, or alteration or renewal of the patent, did not include the extension by an administrator, under the Act of 1836; that it must be construed to include only renewals obtained upon the surrender of a patent on account of a defective specification, and, therefore, that a plaintiff who claimed under an assignment from the administrator, could maintain a suit against a person who claimed under the covenant.[6]

§ 262. II. *The Declaration.* The declaration in an action for the infringement of a patent, should show a title in the

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[1] Herbert *v.* Adams, 4 Mas. 15.

[2] Whittemore *v.* Cutter, 1 Gallis. 429, 430. An assignee of the exclusive right to use a certain number of machines in a certain district, may join his assignor with him in a bill for an injunction. Woodworth *v.* Wilson, 4 How. 712.

[3] Park *v.* Little, 3 Wash. 196.

[4] Pitts *v.* Whitman, 2 Story's R. 609, 614.

[5] Kneass *v.* The Schuylkill Bank, 4 Wash. 106.

[6] Wilson *v.* Rousseau, 4 Howard, 646.

plaintiff, with convenient certainty; and should set forth all the matters which are of the essence. Without these allegations, the plaintiff fails to show a right, in point of law, to ask the Court for judgment in his favor. The several parts of the declaration may here be considered, in the order in which they occur in pleading.

§ 263. The declaration should commence with a recital that the plaintiff was "the original and first inventor" of the subject-matter, the making, using, or vending of which is complained of. This averment is necessary, notwithstanding the letters-patent, afterwards referred to, recite that the plaintiff has alleged that he was the original and first inventor, because it must appear affirmatively, in point of fact, at the trial, that he was so, and the letters-patent can only be resorted to as *primâ facie* evidence of the fact. There must, therefore, be a distinct allegation of the fact, as one of the things essential to the plaintiff's title.[1]

§ 264. For the same reason, the declaration goes on to aver that the subject-matter was "new and useful," "not known or used before the plaintiff's invention or discovery," and "not, at the time of his application for a patent, in public use, or on sale with his consent or allowance."

§ 265. Whether it is necessary to aver the citizenship of the patentee, has never been determined. In practice it is generally done, and it is safer to do so than to omit an averment which might, on demurrer, be held to be essential.[2] But it is absolutely necessary to aver that the plaintiff, being the ori-

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[1] The plaintiff must affirm the performance of all acts on which his title depends. Gray *v.* James, Peters's C. C. R. 476.

[2] Mr. Phillips suggests that the necessity for this averment will depend on the construction to be given to the 15th section of the Act of 1836, by which, if the patentee be an alien, the defendant is permitted to show that the patentee has "failed and neglected, for the space of eighteen months from the date of the patent, to put and continue on sale to the public, on reason-

ginal and first inventor, obtained letters-patent for his invention, in due form of law, under the seal of the Patent Office, signed by the Secretary of State, and countersigned by the Commissioner of Patents.[1]

§ 266. The substance of the grant should then be set forth; that is to say, that the letters-patent secured to the plaintiff, his heirs, administrators, &c., for the term of fourteen years, the full and exclusive right of practising the invention; which should be described briefly, as it is set forth in the letters-patent, of which profert should be made.[2] Where the declaration describes the plaintiff's invention in the words of the patent, it is not necessary that the description, as stated in the specification, should be set forth. If the defendant require

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able terms, the invention or discovery." Phillips on Patents, p. 520, *note*. This clause in the statute can scarcely be considered as imposing a burden of proof of citizenship on the plaintiff. It authorizes the defendant to avail himself of the fact that the plaintiff is an alien, by showing that the plaintiff has omitted to do certain acts; but is any thing more to be inferred from the clause than this, that, if the defendant means to show the omission, he must first show that the plaintiff is an alien? I agree, however, with the learned author that to aver the citizenship is the safest course.

[1] Formerly, patents bore the attestation of the President of the United States; and it was held to be necessary to aver that the letters had been so tested, and that the patent had actually issued, or been delivered; otherwise, the declaration would be bad on demurrer. Cutting and others, Ex'ors v. Myers, 4 Wash. 220. For the same reason, the averment is now necessary that the letters were duly tested by the public officers whose duty it is to sign and countersign them; and the mode of averring the delivery, now usually practised, is to declare that the plaintiff, on such a day, "did obtain" them. But it is not necessary to aver that the preliminary steps to obtain a patent were taken, because, if the declaration aver that the patent was granted in the form prescribed by law, the Court, upon demurrer, will presume that every thing was rightly done to obtain it. Fulton's Ex'ors v. Myers.

[2] Chit. Pl. vol. 2. Profert of the letters-patent, in the declaration, makes them and the specification, when produced, a part of the declaration, and so gives all the certainty, as to the invention and improvement patented, required by law. Pitts v. Whitman, 2 Story's R. 609, 614.

the specification in his defence, he may have it placed in the record by praying oyer of it.[1]

§ 267. The declaration is concluded by an averment of the value of the patent-right and of the breach by the defendant, and the damages sustained by the plaintiff.[2]

§ 268. If the plaintiff sues in the character of assignee of the patent, he must set forth both the patentee's title and his own, and should aver that the assignments were duly recorded in the Patent Office. If the declaration omit to state that the assignments were recorded, the omission will be cured by verdict, if the general terms of the declaration are otherwise sufficient to have authorized the admission of proof of the recording at the trial; upon the general principle, that, after verdict, all the facts necessary to have been proved to enable the jury to find a verdict for the plaintiff, will be presumed to have been proved, if the general terms of the declaration would have let them in.[3]

§ 269. At the trial, proof may be given of the recording

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[1] Gray *v.* James, Peters's C. C. R. 476.

[2] See the Precedents in the Appendix.

[3] Dobson *v.* Campbell, 1 Sumner, 319, 326. Story, J.: "We are of opinion that the motion in arrest of judgment ought to be overruled. We accede to the doctrine stated at the bar, that a defective title cannot, after verdict, support a judgment; and, therefore, it constitutes a good ground for arresting the judgment. But the present is not such a case; but is merely the case of a good title defectively set forth. The defect complained of, is the omission to state, that the assignments, on which the plaintiff's title is founded, were duly recorded in the office of the Department of State, which is made essential to pass the title of the original patentee, by the fourth section of the Patent Act of the 21st February, 1793, ch. 55. The general principle of law is, that, where a matter is so essentially necessary to be proved, to establish the plaintiff's right to recovery, that the jury could not be presumed to have found a verdict for him, unless it had been proved at the trial, that the omission to state that matter in express terms, in the declaration, is cured by the verdict, if the general terms of the declaration are

of an assignment, either before or after the action was brought.[1]

§ 270. III. *Pleadings and Defences.* — The fifteenth section of the Act of 1836 provides that the defendant, in any action for the infringement of a patent, shall be permitted to plead the general issue, and to give the statute and any special matter in evidence, of which notice in writing may have been given to the plaintiff or his attorney, thirty days before trial, tending to prove that the description and specification of the patent does not contain the whole truth relative to the invention or discovery, or that it contains more than is necessary to produce the described effect; which concealment or addition shall fully appear to have been made for the purpose of deceiving the public; or that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new, or that it has been described in some public work anterior to the supposed discovery by the patentee, or had been in public use, or on sale, with his consent or allowance, before his application for a patent, or that he had surreptitiously or unjustly obtained a patent for that which was in fact invented

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otherwise sufficient to comprehend it. This was the doctrine of Lord Ellenborough, in *Jackson* v. *Pesked*, (1 M. & Selw. R. 234); and it is very elaborately expounded, by Mr. Sergeant Williams, in his learned note to 1 Saunders R. 228, *a*. The other authorities, cited on behalf of the plaintiff, are to the same effect. Now, it seems to us, that, taking the whole declaration together, (however inartificially drawn,) the plaintiff sets up a title to the patent-right by assignment, and an enjoyment and use of the right under that title, and that he has been injured in that right, under that title, by the piracy of the defendant. This cannot be true, nor could a verdict for the plaintiff have been found by the jury, if the deeds of assignment had not been duly recorded; for, unless that was done, nothing could pass by the deeds. The cases of *Hitchins* v. *Stevens*, 2 Shower R. 233, and *McMurdo* v. *Smith*, 7 T. R. 518, cited at the bar, seem to us very strongly in point. So is France *v.* Fringer, Cro. Jac. 44."

[1] Pitts *v.* Whitman, 2 Story, 609. Of course, therefore, it is not necessary to aver that the assignment was recorded within three months. Ibid.

or discovered by another, who was using reasonable diligence in adapting and perfecting the same; or that the patentee, if an alien at the time the patent was granted, had failed and neglected, for the space of eighteen months, from the date of the patent, to put and continue on sale to the public, on reasonable terms, the invention or discovery for which the patent issued; in either of which cases, judgment is to be rendered for the defendant, with costs.

§ 271. The object of this provision was, to enable the defendant to give certain special matters in evidence under the plea of the general issue. It seems to have been generally supposed, at a very early period in the history of our legislation, that, under a plea of the general issue, the defendant could not be allowed to attack the validity of the patent, and that that plea only put in issue the question of infringement.[1] Accordingly, the Act of 1793, § 6, enumerated certain special defences, which it declared the defendant "shall be permitted" to give in evidence under the general issue, by first giving notice thereof to the plaintiff. The Supreme Court of the United States construed the provision as intended to relieve the defendant from what were supposed to be the difficulties of pleading, by allowing him to give in evidence, under the plea of not guilty, certain matters affecting the patent, providing, at the same time, for the security of the plaintiff against surprise, by requiring notice to be given of the special matter to be relied on. This notice was substituted for a special plea.[2] The Court also declared that the defendant

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[1] But it was not so in England. Until the Act 5 and 6, Wm. IV. c. 83, § 5, the usual plea was *not guilty*, which, putting in issue the whole of the declaration, forced the plaintiff to support the grant in all its parts, and gave to the defendant the greatest latitude for evidence; but now, the defendant must plead all the defences, and must also deliver in a list of the objections on which he intends to rely at the trial. Godson on Patents, 238, 2d ed.

[2] Evans *v.* Eaton, 3 Wheat. 454; Evans *v.* Kremer, Peters's C. C. R. 215. See also the elaborate note on the Patent Law in the Appendix to 3 Wheat. note II. (written by Mr. Justice Story.)

was not obliged to pursue this course. He might plead specially, in which case the plea would be the only notice the defendant could claim; or he might plead the general issue, in which case he must give notice of the special matter on which he relied.[1]

§ 272. The fifteenth section of the Act of 1836 is taken, with some additional defences, from the sixth section of the

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[1] Evans v. Eaton, 3 Wheat. 454, 503. In this case, Mr. Chief Justice Marshall said: "The sixth section of the Act appears to be drawn on the idea, that the defendant would not be at liberty to contest the validity of the patent on the general issue. It, therefore, intends to relieve the defendant from the difficulties of pleading, when it allows him to give in evidence matter which does affect the patent. But the notice is directed for the security of the plaintiff, and to protect him against that surprise to which he might be exposed from an unfair use of this privilege. Reasoning, merely, on the words directing this notice, it might be difficult to define, with absolute precision, what it ought to include, and what it might omit. There are, however, circumstances in the act which may have some influence on this point. It has been already observed, that the notice is substituted for a special plea; it is farther to be observed, that it is a substitute to which the defendant is not obliged to resort. The notice is to be given only when it is intended to offer the special matter in evidence on the general issue. The defendant is not obliged to pursue this course. He may still plead specially, and then the plea is the only notice which the plaintiff can claim. If, then, the defendant may give in evidence, on a special plea, the prior use of the machine, at places not specified in his plea, it would seem to follow that he may give in evidence its use at places not specified in his notice. It is not believed that a plea would be defective, which did not state the mills in which the machinery alleged to be previously used was placed.

But there is still another view of this subject, which deserves to be considered. The section which directs this notice, also directs that, if the special matter stated in the section be proved, 'judgment shall be rendered for the defendant, with costs, and the patent shall be declared void.' The notice might be intended not only for the information of the plaintiff, but for the purpose of spreading on the record the cause for which the patent was avoided. This object is accomplished by a notice which specifies the particular matter to be proved. The ordinary powers of the Court are sufficient to prevent, and will, undoubtedly, be so exercised, as to prevent the patentee from being injured by the surprise."

Act of 1793, and has the same object in view. It differs from the former act, by omitting the provision that the patent "shall be declared void," if judgment is rendered for the defendant, and by providing that, "when the defendant relies, in his defence, on the fact of a previous invention, knowledge, or use of the thing patented, he shall state, in his notice of special matter, the names and places of residence of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the same thing had been used." This provision was added in consequence of the construction given to the former act, to the effect that notice of the places was not necessary to be given.[1] In other respects, the construction given to the Act of 1793, § 6, is applicable to the present law. The defendant is at liberty to plead specially, in which form of pleading he need give no other notice of his defence than the plea itself gives, or he may plead the general issue, and give notice of the special matter on which he relies. The statute does not undertake to enumerate all the defences which may be made to an action on a patent. It provides that, when certain facts, which it enumerates, are to be relied on, and the general issue is pleaded, the defendant shall give notice of the facts which he means to put in evidence.[2] The notice must be strictly construed; if the defendant gives notice that he will prove the prior use of the invention in the United States, he cannot be allowed to offer evidence of its prior use in England.[3]

§ 273. But it will be useful to make a particular enumeration of the defences that may be made under the general issue, without notice, before we turn our attention to those mentioned in the statute, of which notice must be given, when the general issue is pleaded.

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[1] Evans *v.* Eaton, *ante*, note; Evans *v.* Kremer, Peters's C. C. R. 215.

[2] Whittemore *v.* Cutter, 1 Gallis. 429, 435; Grant *v.* Raymond, 6 Peters, 218.

[3] Dixon *v.* Moyer, 4 Wash. 68.

§ 274. The defendant may show, under the general issue, without notice, that he never did the act complained of; that is, that he has not infringed the patent, or that he was acting under a license or purchase from the plaintiff.[1] He may show that the plaintiff is an alien, not entitled to a patent, or that the plaintiff has not a good title as assignee; or that his patent was not duly issued according to law, in respect of the signatures of the public officers, or of the public seal, &c.[2]

§ 275. He may also show that the invention is not a patentable subject; that is to say, admitting its novelty, he may show that it is not an "art, machine, manufacture, or composition of matter," in the sense of the statute.[3] But the defence that the subject is not patentable on the ground of want of novelty, falls under the statute, and must be specified.

§ 276. In like manner, the defendant may show, under the general issue, without notice, that the invention, though new, fails in point of utility, and is worthless and frivolous.[4]

§ 277. So, too, he may show that there is no specification, or that the specification is so ambiguous and unintelligible, that the Court cannot determine from it, what the invention is that is intended to be patented. This is a different issue from that pointed out in the statute. If the specification do not describe the invention in clear and exact terms, so as to

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[1] Whittemore *v.* Cutter, 1 Gallis. 429, 435; 3 Wheaton's R. Appendix, Note II. p. 27.

[2] Ibid. Kneass *v.* The Schuylkill Bank, 4 Wash. 9, 11.

[3] That the invention is not a patentable subject, admitting its novelty, is a different issue from any that is named in the 15th section of the statute, and it is one that is necessarily raised by the plea of "*not guilty*," since the declaration necessarily imports that the patentee had invented a patentable subject.

[4] Want of novelty is one of the defences enumerated in the 15th section, but want of utility is not; but it is a clear bar to the action, upon the terms of the act, as well as upon the general principles of law.

distinguish it from other inventions, but be so ambiguous and obscure that it cannot be ascertained with reasonable certainty for what the patent is taken, or what it includes, the patent is void for ambiguity; and this is put in issue by the plea of not guilty, because a clear and distinct specification of the invention is essential to the validity of the patent.[1] But if the invention is definitely described in the patent and specification, so as to distinguish it from other inventions before known, there may still exist the defect described in the fifteenth section of the statute, of some concealment or addition made for the purpose of deceiving the public; and when it is intended to show this, under the general issue, notice must be given.

§ 278. We now come to the special defences enumerated in the fifteenth section of the statute. The statute provides that the defendant may, under the general issue, give the statute itself in evidence,[2] and certain special matters, of which he shall have given notice, in writing, to the plaintiff or his attorney, thirty days before trial.[3]

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[1] 3 Wheat. R. Appendix, note II. p. 27; Phillips on Patents, p. 398; Kneass *v.* The Schuylkill Bank, 4 Wash. 9, 13. In this last case, Mr. Justice Washington intimates that the defendant may show, under the general issue, and without notice, that the patent is broader than the discovery. But this must now be otherwise; since the 15th section of the Act of 1836 describes one of the issues which require notice, to be, that the patentee was not the original and first inventor of the thing patented, *or of a substantial and material part thereof.* This is the issue that the patent is broader than the invention.

[2] The meaning of the permission to give the statute in evidence is, that the defendant shall be allowed to rely on any matter of law enacted in the statute, without pleading it specially, which must be done when the statute is a private one. The Patent Act is undoubtedly a public act; but, from abundant caution, to prevent the question of the nature of the act from being raised, this provision was inserted. Kneass *v.* The Schuylkill Bank, 4 Wash. 9, 11.

[3] No witness can be examined, to prove a prior use of the invention, unless notice of his name and residence has been given. The Philadelphia and Trenton Railroad Company *v.* Thompson, 14 Peters, 448, 459.

§ 279. The first of these special defences is, "that the description and specification filed by the plaintiff, does not contain the whole truth relative to his invention or discovery, or that it contains more than is necessary to produce the described effect; which concealment or addition shall fully appear to have been made for the purpose of deceiving the public." We have already seen what was the general purpose of Congress in providing that notice should be given, when certain facts were to be offered in evidence; but it is not very easy to define the scope of the issue intended by the above provision, or to distinguish the exact meaning of the statute in this particular. It is clear, however, that this issue, as we have already suggested, is distinguishable from the issue which presents the naked question, whether there is an intelligible description of the invention, which will enable the public to know what it is. It may help us to understand the present provision, if we review the corresponding provision in the former act, and the decisions made upon it.

§ 280. The corresponding provision in the Act of 1793, § 6, was in the same terms, but that act also provided that, when judgment on this issue had been rendered for the defendant, "the patent shall be declared void;" which is omitted in the Act of 1836, § 15. In one of the earliest reported cases in which this clause of the statute of 1793 came under consideration, Mr. Justice Story held that, if the invention is definitely described in the patent and specification, so as to distinguish it from other inventions before known, the patent is good, although it does not describe the invention in such full, clear, and exact terms, that a person skilled in the art or science of which it is a branch, would construct or make the thing, *unless such defective description or concealment was with intent to deceive the public.* The reasoning of the learned judge, in this case, tends to show that he considered the defect or concealment, with intent to deceive the public, to refer to the practicability of practising the invention from the specification; and, in a subsequent case, he seems to consider

that the statute intended to alter the common law, and to declare the patent void, only when the concealment or defect was with such an intent. But it is not quite clear, whether he considered that the issue raised by an allegation that the specification would not enable a workman to make the thing described, is, as a defence to the action, not one of the special defences of the statute, and, consequently, that it is raised by the plea of not guilty, without notice.[1]

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[1] Whittemore *v.* Cutter, 1 Gallis. 429, 433; Lowell *v.* Lewis, 1 Mas. 182, 187. The reasoning of the learned judge, in both these cases, was as follows: "Another objection is to the direction, that the oath taken by the inventor, not being conformable to the statute, formed no objection to the recovery in this action. The statute requires that the patentee should swear, 'that he is the true inventor or discoverer of the art, machine, or improvement.' The oath taken by Whittemore was, that he was the true *inventor* or *improver* of the machine." The taking of the oath was but a prerequisite to the granting of the patent, and in no degree essential to its validity. It might as well have been contended, that the patent was void, unless the thirty dollars, required by the 11th section of the Act, had been previously paid. We approve of the direction of the Court on this point, and overrule this objection.

Another objection is to the direction respecting the specification. It was as follows: "That, if the jury should be satisfied, that the specification and drawings, filed by the patentee in the office of the Secretary of State, were not made in such full, clear, and exact terms and manner as to distinguish the same from all other things before known, and to enable any person skilled in the art or science, of which it is a branch, or with which it is most nearly connected, to make and use the same, this would not be sufficient to defeat the rights of the plaintiffs to recover in this action, unless the jury were also satisfied, that the specification and drawings were thus materially defective and obscure *by design*, and the concealment made for the purpose of deceiving the public. In this respect our law differed from the law of England, that, if the specification and drawings were thus materially defective, it afforded a presumption of a designed concealment, which the jury were to judge of. That, in deciding as to the materiality of the deficiencies in the specification and drawings, it was not sufficient evidence to disprove the materiality, that, by studiously examining such specification and drawings, a man of extraordinary genius might be able to construct the machine, by inventing parts, and by trying experiments. The object of the law was, to prevent the expenditure of time and money in trying experi-

§ 281. In a subsequent case, the Supreme Court of the United States decided, that, in order to justify a judgment,

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ments, and to obtain such exact directions, that, if properly followed, a man of reasonable skill in the particular branch of the art or science might construct the machine, and if, from the deficiencies, it was impracticable for such a man to construct it, the deficiencies were material." In order fully to understand the objection to this direction, it is necessary to advert to the third section of the Act of 1793, which specifies the requisites to be complied with in procuring a patent, and the sixth section of the same Act, which states certain defences, of which the defendant may avail himself to defeat the action, and to avoid the patent. The third section, among other things, requires the party applying for a patent, to deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms, as to distinguish the same from all other things before known, and to enable any person, skilled in the art or science of which it is a branch, or with which it is most intimately connected, to make, compound, and use the same; and, in the case of any machine, he shall fully explain the principle, and the several modes, in which he has contemplated the application of that principle, or character, by which it may be distinguished from other inventions. The sixth section provides, among other things, that the defendant may give in his defence, that the specification filed by the plaintiff does not contain the whole truth relative to his discovery, or that it contains more than is necessary to produce the described effect, *which concealment or addition shall fully appear to have been made for the purpose of deceiving the public.*

It is very clear, that the sixth section does not enumerate all the defences, of which the defendant may legally avail himself; for he may clearly give in evidence, that he never did the act attributed to him, that the patentee is an alien, not entitled under the act, or that he has a license or authority from the patentee. It is, therefore, argued, that, if the specification be materially defective, or obscurely, or so loosely worded, that a skilful workman, in that particular art, could not construct the machine, it is a good defence against the action, although no intentional deception has been practised. And this is, beyond all question, the doctrine of the common law; and it is founded in good reason; for the monopoly is granted upon the express condition, that the party shall make a full and explicit disclosure, so as to enable the public, at the expiration of his patent, to make and use the invention or improvement, in as ample and beneficial a manner as the patentee himself. If, therefore, it be so obscure, loose, and imperfect, that this cannot be done, it is defrauding the public of all the consideration upon which the monopoly is granted. (Buller, N. P. 77; Turner *v.* Winter, 1 T. R. 602.) And the

declaring a patent void, the defect or concealment must appear to have been made for the purpose of deceiving the

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motion of the party, whether innocent or otherwise, becomes immaterial, because the public mischief remains the same.

It is said, that the law is the same in the United States, notwithstanding the wording of the sixth section, for there is a great distinction between a concealment of material parts, and a defective and ambiguous description of all the parts; and that, in the latter case, although there may be no intentional concealment, yet the patent may be avoided for uncertainty, as to the subject-matter of it. There is considerable force in the distinction, at first view; and yet, upon more close examination, it will be difficult to support it. What is a defective description, but a concealment of some parts, necessary to be known, in order to present a complete view of the mechanism? In the present case, the material defects were stated, among other things, to consist in a want of a specific description of the dimensions of the component parts, and of the shapes and positions of the various knobs. Were these a concealment of material parts, or a defective and ambiguous disclosure of them? Could the legislature have intended to pronounce, that the concealment of a material spring should not, unless made with design to deceive the public, avoid the patent, and yet, that an obscure description of the same spring should, at all events, avoid it? It would be somewhat hazardous to attempt to sustain such a proposition.

It was, probably, with a view to guard the public against the injury arising from defective specifications, that the statute requires the letters-patent to be examined by the attorney-general, and certified to be in conformity to the law, before the great seal is affixed to them. In point of practice, this must, unavoidably, be a very insufficient security, and the policy of the provision, that has changed the common law, may be very doubtful. This, however, is a consideration proper before another tribunal. We must administer the law, as we find it. And, without going at large into this point, we think that the manifest intention of the legislature was, not to allow any defect or concealment, in a specification, to avoid the patent, unless it arose from an intention to deceive the public. There is no ground, therefore, on which we can support this objection." 1 Gallis. 433.

An objection, of a more general cast, (and which might, more properly, have been considered at the outset of the cause, as it is levelled at the sufficiency of the patent itself,) is, that the specification is expressed in such obscure and inaccurate terms, that it does not either definitely state in what the invention consists, or describe the mode of constructing the machine, so as to enable skilful persons to make one. I accede, at once, to the doctrine of the authority, which has been cited, (M'Farlane *v.* Price, 1 Starkie's R.

public; but if the defendant merely seeks to defend himself, he may do so, by showing that the patentee has failed in

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192,) that the patentee is bound to describe, in full and exact terms, in what his invention consists; and, if it be an improvement only upon an existing machine, he should distinguish what is new, and what is old, in his specification, so that it may clearly appear for what the patent is granted. The reason of this principle of law will be manifest, on the slightest examination. A patent is grantable only for a new and useful invention; and, unless it be distinctly stated, in what that invention specifically consists, it is impossible to say, whether it ought to be patented or not; and it is equally difficult to know, whether the public infringe upon or violate the exclusive right secured by the patent. The patentee is clearly not entitled to include in his patent the exclusive use of any machinery already known; and, if he does, his patent will be broader than his invention, and, consequently, void. If, therefore, the description in the patent mixes up the old and the new, and does not distinctly ascertain for which, in particular, the patent is claimed, it must be void; since, if it covers the whole, it covers too much, and, if not intended to cover the whole, it is impossible for the Court to say what, in particular, is covered, as the new invention. The language of the Patent Act itself is decisive, on this point. It requires, (§ 3,) that the inventor shall deliver a written description of his invention, "in such full, clear, and exact terms, as to distinguish the same from all other things before known; and, in the case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle, or character, by which it may be distinguished from other inventions."

It is, however, sufficient, if what is claimed as new appear, with reasonable certainty, on the face of the patent, either expressly or by necessary implication. But it ought to appear, with reasonable certainty, for it is not to be left to minute references and conjectures, from what was previously known or unknown; since the question is not, what was before known, but what the patentee claims *as new;* and he may, in fact, claim, as new and patentable, what has been long used by the public. Whether the invention itself be thus specifically described, with reasonable certainty, is a question of law upon the construction of the terms of the patent, of which the specification is a part; and, on examining this patent, I, at present, incline to the opinion, that it is sufficiently described, in what the patented invention consists.

A question, nearly allied to the foregoing, is, whether (supposing the invention itself be truly and definitely described in the patent,) the specification is in such full, clear, and exact terms, as not only to distinguish the

any of the prerequisites, on which the authority to issue a patent depends. This decision made the evidence of fraudulent intent requisite, only in the particular case and for the particular purpose of having the patent declared void.[1]

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same from all things before known, but "to enable any person skilled in the art or science, of which it is a branch, or with which it is most nearly connected, to make, compound, and use the same." This is another requisite of the statute, (§ 3,) and it is founded upon the best reasons. The law confers an exclusive patent-right, on the inventor of any thing new and useful, as an encouragement and reward for his ingenuity, and for the expense and labor attending the invention. But this monopoly is granted for a limited term only, at the expiration of which the invention becomes the property of the public. Unless, therefore, such a specification was made, as would, at all events, enable other persons, of competent skill, to construct similar machines, the advantage to the public, which the act contemplates, would be entirely lost, and its principal object would be defeated. It is not necessary, however, that the specification should contain an explanation, level with the capacities of every person (which would, perhaps, be impossible); but, in the language of the act, it should be expressed in such full, clear, and exact terms, that a person skilled in the art or science, of which it is a branch, would be enabled to construct the patented invention. By the common law, if any thing, material to the construction of the thing invented, be omitted or concealed in the specification, or more be inserted or added than is necessary to produce the required effect, the patent is void. This doctrine of the common law, our Patent Act has (whether wisely, admits of very serious doubts,) materially altered: for it does not avoid the patent in such case, unless the "concealment or addition shall fully appear to have been made for the purpose of deceiving the public." (§ 6.) Yet, certainly, the public may be as seriously injured, by a materially defective specification, resulting from mere accident, as if it resulted from a fraudulent design. Our law, however, is as I have stated; and the question here is, and it is a question of fact, whether the specification be so clear and full, that a pump-maker, of ordinary skill, could, from the terms of the specification, be able to construct one upon the plan of Mr. Perkins." 1 Mas. 187.

[1] Grant *v.* Raymond, 6 Peters, 218, 246. Mr. C. J. Marshall, delivering the judgment of the Court, in this case, said: — "Courts did not, at first, perhaps, distinguish clearly between a defence, which would authorize a verdict and judgment in favor of the defendant, in the particular action, leaving the plaintiff free to use his patent, and to bring other suits for its infringement; and one which, if successful, would require the Court to enter

§ 282. Now, the Statute of 1836 omits the provision, that the patent shall be declared void, when judgment is rendered

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a judgment, not only for the defendant, in the particular case, but one which declares the patent to be void. This distinction is now well settled.

If the party is content with defending himself, he may either plead specially, or plead the general issue, and give the notice, required by the sixth section, of any special matter he means to use at the trial. If he shows that the patentee has failed in any of those prerequisites, on which the authority to issue the patent is made to depend, his defence is complete. He is entitled to the verdict of the jury and the judgment of the Court. But if, not content with defending himself, he seeks to annul the patent, he must proceed in precise conformity to the sixth section. If he depends on evidence, "tending to prove that the specification, filed by the plaintiff, does not contain the whole truth, relative to his discovery, or that it contains more than is necessary to produce the described effect," it may avail him, so far as respects himself, but will not justify a judgment, declaring the patent void, unless such "concealment or addition shall fully appear to have been made for the purpose of deceiving the public;" which purpose must be found, by the jury, to justify a judgment of *vacatur* by the Court. The defendant is permitted to proceed, according to the sixth section, but is not prohibited from proceeding, in the usual manner, so far as respects his defence; except that special matter may not be given in evidence, on the general issue, unaccompanied by the notice which the sixth section requires. The sixth section is not understood to control the third. The evidence of fraudulent intent is required only in the particular case, and for the particular purpose stated in the sixth section.

This instruction was material, if the verdict ought to have been for the defendants, provided the allegations of the plea were sustained, and if such verdict would have supported a judgment in their favor, although the defect in the specification might not have arisen from design, and for the purpose of deceiving the public. That such is the law, we are entirely satisfied. The third section requires, as preliminary to a patent, a correct specification and description of the thing discovered. This is necessary, in order to give the public, after the privilege shall expire, the advantage for which the privilege is allowed, and is the foundation of the power to issue the patent. The necessary consequence of the ministerial character, in which the secretary acts, is, that the performance of the prerequisites to a patent must be examinable in any suit brought upon it. If the case was of the first impression, we should come to this conclusion; but it is understood to be settled.

The act of parliament, concerning monopolies, contains an exception, on which the grants of patents, for inventions, have issued in that country. The

for the defendant; and it leaves the ground of concealment or addition in the specification, with intent to deceive the

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construction of so much of that exception, as connects the specification with the patent, and makes the validity of the latter dependent on the correctness of the former, is applicable, we think, to proceedings under the third section of the American Act. The English books are full of cases, in which it has been held, that a defective specification is a good bar, when pleaded to, or a sufficient defence, when given in evidence, on the general issue, on an action brought for the infringement of a patent-right. They are very well summed up, in Godson's Law of Patents, title Specification; and, also, in the chapter respecting the infringement of patents; also in Holroyd on Patents, where he treats of the specification, its form, and requisites. It is deemed unnecessary to go through the cases, because there is no contrariety in them, and because the question is supposed to be substantially settled in this country. Pennock & Sellers *v.* Dialogue, 1 Peters, 1, was not, it is true, a case of defect, in the specification or description, required by the third section, but one in which the applicant did not bring himself within the provision of the first section, which requires that, before a patent shall issue, the petitioner shall allege, that he has invented a new and useful art, machine, &c., "*not known or used before the application.*" This prerequisite of the first section, so far as a failure in it may affect the validity of the patent, is not distinguishable from a failure of the prerequisites of the third section.

On the trial, evidence was given, to show that the patentee had permitted his invention to be used, before he took out his patent. The Court declared its opinion to the jury, that, if an inventor makes his discovery public, he abandons the inchoate right to the exclusive use of the invention. "It is possible," added the Court, "that the inventor may not have intended to give the benefit of his discovery to the public." But it is not a question of intention, "but of legal inference, resulting from the conduct of the inventor, and affecting the interests of the public. It is for the jury to say, whether the evidence brings this case within the principle which has been stated. If it does, the Court is of opinion, that the plaintiff is not entitled to a verdict."

The jury found a verdict for the defendants, an exception was taken to the opinion, and the judgment was affirmed by this Court. This case affirms the principle, that a failure, on the part of the patentee, in those prerequisites of the act, which authorize a patent, is a bar to a recovery, in an action for its infringement; and that the validity of this defence does not depend on the intention of the inventor, but is a legal inference upon his conduct."

public, simply a defence to the action, of a special nature. There can be no doubt, therefore, that, when the defendant proposes to show, that the specification contains more or less than a true description of the invention, and that the concealment or addition was made for the purpose of deceiving the public, his plea must either be special, setting forth the defects and charging the intent, or it must be the general issue, accompanied by notice of the defects, in the specification, intended to be relied on. But, I do not conceive that the statute means to say, that no concealment or defect, in a specification, shall be available, as a defence to the action, under the general issue, unless it was made with intent to deceive the public. The statute may be construed, as if it read thus:— "Whenever the defendant seeks to show, that the specification does not contain the whole truth, relative to the invention or discovery, or, that it contains more than is necessary, to produce the described effect, and that such concealment or addition was made, for the purpose of deceiving the public, he may plead the general issue, and give such special matter in evidence, provided he shall have given notice," &c. On the other hand, if the defendant relies on a failure in the specification, in respect of any of the prerequisites for issuing a patent, he may show such failure, under a plea of the general issue, without any notice.

§ 283. The next special defence mentioned in the statute is, in substance, that the subject-matter is not new; that is, "that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof, claimed as new; or that it had been described in some public work, anterior to the supposed discovery thereof by the patentee." [1]

[1] When this defence is relied upon, it will be incumbent on the defendant to show that the invention had been known, used, or described in a public work, *anterior to the supposed discovery of the patentee.* The plaintiff's right in his invention, therefore, relates back to the original discovery, which may

§ 284. We have seen, in a former chapter of this work, when a party is or is not the original and first inventor of a patented subject; and also, that a failure, in point of novelty, of any substantial and material part of the alleged invention, renders the patent void *pro tanto*. In order to ensure the plaintiff against surprise, whenever this defence is to be resorted to, the same section of the statute requires that the defendant "shall state, in his notice of special matter, the names and places of residence of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the same had been used." This provision must be strictly complied with.[1]

§ 285. It is also fairly to be inferred, from the requisition, that notice shall be given of "any special matter" intended to be offered in evidence, "tending to prove" the particular defence relied upon, that the notice must describe whether the whole, or a part, and what part of the invention is to be charged with want of novelty, and in what public work or works, the whole, or a part, or what part had been described before the supposed discovery by the patentee. There is no limitation of time within which this defence must be set up.[2]

be proved by parol, and is not necessarily presumed to have been made on the day when the patent issued; although the infringement must have taken place after the date of the patent. Dixon *v.* Moyer, 4 Wash. 68, 72. The conversations and declarations of a patentee, merely affirming that, at some former period, he had invented a machine, may well be objected to. But his conversations and declarations, stating that he had made an invention, and describing its details, and explaining its operations, are properly deemed an assertion of his right, at that time, as an inventor, to the extent of the facts and details which he then makes known, although not of their existence at an anterior time. Such declarations, coupled with a description of the nature and objects of the invention, are to be deemed part of the *res gestæ*, and they are legitimate evidence that the invention was then known and claimed by him; and thus its origin may be fixed, at least, as early as that period. The Philadelphia and Trenton Railroad Co. *v.* Thompson, 14 Peters, 448.

[1] Ibid.

[2] Evans *v.* Eaton, Peters's C. C. R. 322, 348.

§ 286. The stringent effect of this defence has been materially modified, however, by two other provisions. The first is contained in the two provisions which are found at the end of the same fifteenth section of the Act of 1836; "provided that, whenever it shall satisfactorily appear that the patentee, at the time of making his application for the patent, believed himself to be the first inventor or discoverer of the thing patented, the same shall not be held to be void, on account of the invention or discovery, or any part thereof having been before known or used in any foreign country, it not appearing that the same, or any substantial part thereof, had before been patented or described in any printed publication; *and provided also*, that, whenever the plaintiff shall fail to sustain his action, on the ground that in his specification of claim is embraced more than that of which he was the first inventor, if it shall appear that the defendant had used or violated any part of the invention justly and truly specified, and claimed as new, it shall be in the power of the Court to adjudge and award, as to costs, as may appear to be just and equitable."

§ 287. The other provision is contained in the Act of March 3, 1837, § 7, 9, in relation to a disclaimer. The seventh section enacts as follows: "That, whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented, being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimer of such parts of the thing patented, as the disclaimant shall not claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent; which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall there-

after be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured thereby, by the disclaimant, and by those claiming by or under him, subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same."

§ 288. The ninth section is as follows: "Be it further enacted, any thing in the fifteenth section of the act to which this is additional to the contrary, notwithstanding, that, whenever by mistake, accident, or inadvertence, and without any wilful default, or intent to defraud or mislead the public, any patentee shall have, in his specification, claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bonâ fide* his own: *Provided*, it shall be a material and substantial part of the thing patented, and be definitely distinguishable from the other parts so claimed without right as aforesaid. And every such patentee, his executors, administrators, and assigns, whether of the whole or a sectional interest therein, shall be entitled to maintain a suit at law or in equity, on such patent, for any infringement of such part of the invention or discovery as shall be *bonâ fide* his own, as aforesaid, notwithstanding the specification may embrace more than he shall have any legal right to claim. But, in every such case in which a judgment or verdict shall be rendered for the plaintiff, he shall not be entitled to recover costs against the defendant, unless he shall have entered at the Patent Office, prior to the commencement of the suit, a disclaimer of all that part of the thing patented which was so claimed without right; *Provided, however*, that no person bringing any such suit

shall be entitled to the benefit of the provisions contained in this section, who shall have unreasonably neglected or delayed to enter at the Patent Office a disclaimer as aforesaid." [1]

§ 289. The result of these various enactments is, that, for so much of the invention as has been described in some public work anterior to the supposed discovery by the patentee, whether the description was known to him in point of fact, or not, — if it be a substantial and material part of the thing invented, and be claimed as new, — and for so much as had been previously patented, the patent is inoperative. But the mere previous knowledge or use of the thing in a foreign country will not defeat a patent here, issued to an original inventor, provided it had not been previously patented or described in a printed publication.

§ 290. It will be observed, that the same statute uses different phraseology, in describing the kind of publication which is to have this effect. In the body of the 15th section of the Act of 1836, it is declared to be a description in "some public work;" and, in the proviso of the same section, it is declared to be "any printed publication." This renders it somewhat doubtful, as to what kind of publication is intended. The phrase, "some public work," would seem to point

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[1] In Reed *v.* Cutter, 1 Story, 590, 600, Mr. Justice Story said: "In respect to another point, stated at the argument, I am of opinion, that a disclaimer, to be effectual for all intents and purposes, under the Act of 1837, ch. 45, (§ 7 and 9,) must be filed in the Patent Office before the suit is brought. If filed during the pendency of the suit, the plaintiff will not be entitled to the benefit thereof in that suit. But if filed before the suit is brought, the plaintiff will be entitled to recover costs in such suit, if he should establish, at the trial, that a part of the invention, not disclaimed, has been infringed by the defendant. Where a disclaimer has been filed, either before or after the suit is brought, the plaintiff will not be entitled to the benefit thereof, if he has unreasonably neglected or delayed to enter the same at the Patent Office. But such an unreasonable neglect or delay will constitute a good defence and objection to the suit.

to a class of regular established publications, or to some book publicly printed and circulated, so as to be open to the public; while the phrase "any printed publication" is broad enough to include any description, printed in any form, and published or circulated to any extent and in any manner. Taking the whole section together, however, and looking to the apparent policy of the statute, it is probable that the intention of Congress was, to make it a conclusive presumption that the patentee had seen any printed description of the thing, which had been so printed and published as to be accessible to the public; but not to adopt that presumption in cases of printed descriptions, published and circulated in such a manner as not to be accessible either to the public or to him. If the presumption were adopted in cases of the latter class of publications, an original and meritorious inventor might be defeated of his patent, by showing that the thing had, in a foreign country, been privately described in a printed paper published to a single individual; which certainly would not be a description in a "public work," although it would be a description in a "printed publication." When it is considered that the statute excepts cases even where the thing had been known or used abroad, provided it had not been patented, or described in any printed publication, it seems reasonable to suppose that the publication intended is one to which the public could have access; and this construction is fortified by the consideration that the defence enacted in this section, to which the proviso establishes the exception, is, that the thing had been described in "some public work."[1]

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[1] The statute of 1799, § 6, used only the phrase "described in some public work," and did not contain the proviso introduced into the Act of 1836. Marshall, C. J., in Evans *v.* Eaton, 3 Wheat. 454, 514, commenting on the former statute, said, "It may be that the patentee had no knowledge of this previous use or previous description; still his patent is void; *the law supposes he may have known it.*" It is, therefore, by adopting a presumption of knowledge, that the law declares the patent void. But there could be no

§ 291. If this be so, it would seem to be a question for the jury, under all the circumstances under which the publication has taken place, to determine whether the description was so printed and published, as to be accessible to the public, where the publication took place. If it was so accessible, the presumption is against the patentee, and his patent will be defeated, notwithstanding he may not have seen it; because the description was already in the possession of the public.

§ 292. What, then, constitutes a "description?" No judicial construction has yet been given to this term. It can scarcely be supposed, however, that a mere suggestion of the possibility of constructing the machine, or other thing, which may have been subsequently patented, is what the statute intends. The reason why the statute adopts the presumption of knowledge, on the part of the subsequent patentee, is, that a knowledge of the thing was already in the possession of the public. It makes knowledge and the means of knowledge on the part of the public the same thing; and, acting upon this principle, it holds that the public have acquired nothing from the specification of the patentee, which they did not possess before, and that the patentee has invented nothing, which he, as one of the public, could not have derived from the means of knowledge which the public before possessed.[1] Hence it is, that the production of a prior description, which was in the possession of the public, negatives the title of the patentee as the first inventor. But it follows necessarily, from this view of the principle on which

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reason or justice in adopting such a presumption, in cases where the printed description had not come into the possession of the public; and it is manifest that the former statute did not mean to adopt it in such cases, since it uses only the phrase "public work."

[1] A man cannot be said to be the inventor of that which has been exposed to public view, and which he might have had access to if he had thought fit." Lord Abinger, C. B., in Carpenter *v.* Smith, Webs. Pat. Cas. 535.

the law proceeds, that the description must be such as to give the public the means of knowledge, or, in other words, must of itself enable the public to practise the invention. It is not necessary that the invention should have been reduced to practice; but, unless the description would enable the public, without further invention, to put the thing in practice, it cannot be said that a knowledge of that thing is in the possession of the public. Accordingly, it has been laid down by two eminent writers on the Patent Law, that the description which is to have the effect of defeating a subsequent patent, ought to approach the character, and in some degree to answer the purpose of a specification, by serving as a direction for making, doing, or practising the thing which is the subject of the patent.[1] But mere speculations or suggestions of an experimental kind, not stated in such a way as to serve for a practical direction, are entirely analogous in their character to abortive and unsuccessful experiments in practice. The Marquis of Worcester's Century of Inventions contained many hints and speculations, on which subsequent inventors have acted; but as they were the mere speculations of an ingenious man, not reduced by him to practice, and not so stated, that the statement would answer for a rule of working, without the exercise of invention on the part of the public,

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[1] Phillips on Patents, p. 175. Mr. Webster (Pat. Cas. 719, note,) says: "But whatever may be the peculiar circumstances under which the publication takes place, the account so published, to be of any effect in law as a publication, must, on the authority of the principal case, be an account of a complete and perfect invention, and published as such. If the invention be not described and published as a complete, perfected, and successful invention, but be published as an account of some experiment, or by way of suggestion and speculation, as something which, peradventure, might succeed, it is not such an account as will vitiate subsequent letters-patent. It would appear to be a test not wholly inapplicable to cases of this nature, to inquire whether what is so published would be the subject of letters-patent, because, inasmuch as that which rests only in experiment, suggestion, and speculation, cannot be the subject of letters-patent, it would be unreasonable that what could not be the subject of letters-patent, supposing letters-patent granted in respect thereof, should vitiate letters-patent properly granted."

they have not been held to have defeated the patents to which they give rise.[1]

§ 293. The defendant, therefore, — to return to the consideration of this defence, — who gives notice of the statute defence of want of novelty, will not be defeated in it, if he proves a material part of the invention to have been known or used before the discovery by the patentee, provided he shows that the specification was made broader than the real discovery of the plaintiff, with "wilful default or intent to defraud or mislead the public." But if it was made broader than the real discovery, through accident or inadvertence, the patent will still be good, and an action may be maintained for so much of the invention or discovery as is *bonâ fide* the invention or discovery of the patentee, provided it is a material and substantial part of the thing patented, and is definitely distinguishable from the other part which the patentee had no right to claim; unless there has been an unreasonable neglect or delay to file the disclaimer.[2] No costs, however, can be recovered in such an action, unless the plaintiff, before bringing his action, has filed in the Patent Office a disclaimer of all that part of the thing patented which his original specification should not have claimed. If the disclaimer is filed before the action is brought, but the entry of it at the Patent Office has been unreasonably neglected or delayed, the defence of a want of novelty in any material respect, from whatever cause the defect in the original specification arose, will be admitted as a bar to the action; and the question of unreasonable neglect or delay will be a question of law for the Court.

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[1] See the observations of Lord Abinger, C. B., in Carpenter *v.* Smith, Webs. Pat. Cas. 534.

[2] It seems that the 9th section was intended to cover inadvertences and mistakes of law, as well as of fact; and, therefore, a claim of an abstract principle would be within its provisions. Wyeth *v.* Stone, 1 Story's R. 273, 295. See further as to Disclaimer, *ante*.

§ 294. Of course a defence which goes to the originality of a material and substantial part of the thing patented, the essence of the plaintiff's invention, as is most frequently the case, will not be affected by these provisions.

§ 295. Care is to be taken, therefore, in framing this defence, to ascertain, in the first place, whether the whole or only a part of the substance of the thing patented is open to the objection of prior use or knowledge; and, in the second place, whether a disclaimer has been filed. If a disclaimer has been filed in reasonable time, the defence of a want of novelty that goes only to a part of the thing patented, and still leaves a material and substantial part unaffected by the objection, will not be an answer to the action, but will simply prevent the recovery of costs. But a defence which goes to the originality of the whole patent, and leaves nothing new that is material and substantial, and capable of distinction as the subject-matter of the plaintiff's invention, will be an answer to the action, notwithstanding any disclaimer. It is obviously necessary, therefore, to specify, in the notice of defence, the particular parts of the thing patented which it is intended to attack.[1]

§ 295 *a*. The book must not only be specified, but the place in the book in which the alleged description is to be found. Thus, where the defendant specified in his notice that the invention claimed by the plaintiff was described in Ure's Dictionary of Arts, &c., and had been used by Andrew Ure, of London, it was held not to be competent to the defendant to give the dictionary in evidence, no specification having been given of the place in the book where the description might be found; and, also, that, as the notice did not state the place where Andrew Ure had used the invention,

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[1] See further an elaborate construction of the 7th and 9th sections, as to a disclaimer, in the opinion of Mr. Justice Story, in the case of Wyeth *v.* Stone, 1 Story's R. 273.

the book was not competent evidence that Andrew Ure, of London, had a prior knowledge of the thing patented.[1]

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[1] Silsby *v.* Foote, 14 Howard, 218, 222. In this case, Mr. Justice Curtis, who delivered the opinion of the Court, said: "In the course of the trial, the defendants offered to put in evidence two articles contained in Ure's Dictionary of Arts, Manufactures, and Mines, to prove that the patent declared on was not valid. The plaintiff objected, and the evidence was excluded. It is incumbent on the defendants to show their right to introduce this evidence. To do so, they rely on the fifteenth section of the Act of July 4th, 1836, 5 Stat. at Large, 123. This section enables the defendant, in any action on the case founded on letters-patent, to give in evidence, under the general issue, any special matter of which notice in writing may have been given to the plaintiff, or his attorney, thirty days before the trial, tending to prove, among other things, that the patentee was not the original and first inventor of the thing patented, or of some substantial and material part thereof claimed as new, or that it had been described in some public work, anterior to the supposed discovery thereof by the patentee; and, whenever the defendant relies, in his defence, on the fact of a previous invention, knowledge or use of the thing patented, he is required to state, in his notice of special matter, the names and places of residence of those whom he intends to prove possessed a prior knowledge of the thing, and where the same has been used. The notice given in this case was as follows:

'The patentee was not the original and first inventor or discoverer of a substantial and material part thereof, claimed as new. That it had been described in a public work, called "Ure's Dictionary of Arts, Manufactures, and Mines," anterior to the supposed invention thereof by the patentee; and also had been in public use and known before that time, and used by Andrew Ure, of London, the late M. Bonnemair, of Paris, and George H. McClary, of Seneca Falls, New York.'

Ure's Dictionary contains upwards of thirteen hundred pages, and the articles which the defendants offered to read were entitled 'Thermostad' and 'Heat Regulator.' The first question is, whether this was a sufficient notice of the special matter, tending to prove that the thing patented, or some substantial part thereof, claimed as new, had been described in a printed publication. We are of opinion it was not. The act does not attempt to prescribe the particulars which such a notice shall contain. It simply requires notice. But the least effect which can be allowed to this requirement, is, that the notice should be so full and particular as reasonably to answer the end in view. This end was not merely to put the patentee on inquiry, but to relieve him from the necessity of making useless inquiries and researches, and enable him to fix with precision upon what is relied on by the defendants, and to prepare himself to meet it at the trial. This highly salutary object

§ 296. Another of the statute defences is, that the patentee had allowed his invention to become public before his appli-

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should be kept in view, and a corresponding disclosure exacted from the defendant of all those particulars which he must be presumed to know, and which he may safely be required to state, without exposing him to any risk of losing his rights. Less than this would not be reasonable notice, and, therefore, would not be such a notice as the Act must be presumed to have intended.

Now, we do not perceive that the defendants would be exposed to the risk of losing any right, by requiring them to indicate in their notice, what particular things, described in the printed publication, they intended to aver were substantially the same as the thing patented. This they might have done, either by reference to pages, or titles, and perhaps in other ways, for the particular manner in which the things referred to are to be identified, must depend much upon the contents of the volume, and their arrangement. It has been urged that a defendant may not have access to the book in season for the notice. But it must be remembered that, some considerable time before it is necessary to give such a notice, the defendant has begun to use the thing patented, which, *primâ facie*, he has no right to use, and it would seem to be no injustice, or hardship, to expect him, before he begins to infringe, to ascertain that the patentee's title is not valid, and, if its invalidity depends on what is in a public work, that he should inform himself what that work contains, and, consequently, how to refer to it. We do not think it necessary so to construe this act, designed for the benefit of patentees, as to enable the defendant to do, what, we fear, is too often done, to infringe first, and look for defence afterwards.

Nor does a notice, that somewhere, in a volume of thirteen hundred pages, there is something which tends to prove that the thing patented, or some substantial and material part thereof, claimed as new, had been described therein, relieve the patentee from the necessity of making fruitless researches, or enable him to fix, with reasonable certainty, on what he must encounter at the trial. Upon this ground, therefore, the exception cannot be supported.

But it is further urged that the book ought to have been admitted as evidence; that Andrew Ure, of London, had a prior knowledge of the thing patented. This view cannot be sustained. For, although the name of Andrew Ure, of London, is contained in the notice of persons who are alleged to have had this prior knowledge, yet the defendants have not brought themselves within the Act of Congress, because the notice does not state, 'where the same was used,' by Andrew Ure. Besides, inasmuch as the same section of the statute provides that a prior invention in a foreign country shall not avoid a patent, otherwise valid, unless the foreign invention had been described in a printed publication, the defendants are thrown back upon that

cation for a patent, or, as it is expressed in the statute, that it "had been in public use, or on sale, with the consent or allowance of the patentee, before his application for a patent." This provision is intended to embody the defence of an abandonment or dedication to the public of his invention by the patentee, prior to his application for a patent. The question whether a patentee, by any and what degree of use of his invention, before his application for a patent, could lose his inchoate right in the thing invented, and not be able afterwards to resume it at his pleasure, arose before the statute of 1836 was passed, and the Supreme Court of the United States declared that an inventor might undoubtedly abandon his invention, and surrender or dedicate it to the public; and that the question which generally arises is, whether the acts or acquiescence of the party, furnish, in the given case, satisfactory proof of such an abandonment or dedication to the public. The Court held, that the true construction of the then existing law was, that the first inventor cannot acquire a good title to a patent, if he suffers the thing invented to go into public use, or to be publicly sold for use, before he makes application for a patent; that such a voluntary act, or acquiescence in the public sale or use, is an abandonment of his right; or rather creates a disability to comply with the terms and conditions of the law, on which alone the public officer is authorized to grant a patent.[1] In a more recent case, the same court re-affirmed this construction of the Patent Laws, and held that the right of an alien patentee was vacated, in the same manner, by a foreign use or knowledge of his invention, under the then existing statutes.[2]

§ 297. It was the object of the clause now under consideration, to make this defence of a prior abandonment or dedi-

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clause of the act which provides for that defence, arising from a printed publication, which has already been considered."

[1] Pennock *v.* Dialogue, 2 Peters, 1.

[2] Shaw *v.* Cooper, 7 Peters, 292.

cation to the public available under the general issue, upon notice of the facts intended to be proved.[1] By "public use" is meant use in public; that is to say, if the inventor himself makes and sells the thing to be used by others, or it is made by one other person only, with his knowledge and without objection, before his application for a patent, *à fortiori*, if he suffers it to get into general use, it will have been in "public use."[2] But where the patentee alone makes the thing for the purposes of experiment and completion, without selling it to be used by others, the term "public use" is not applicable.[3]

§ 298. An important question next arises, as to what will constitute proof of the "consent and allowance" of the patentee to the public use or sale" of his invention, before his application. In the first place, a knowledge of such public use or sale by others, without objection on his part, will go far towards raising the presumption of an acquiescence, and, in some cases, will be a sufficient proof of it. The question in such cases is as to his consent; and, if knowledge of the use of his invention by others is brought home to him, and no exclusive right has been asserted by him against that use, his silence will furnish very strong evidence that he has waived his right.[4] If the evidence shows a long acquiescence, or a very general use, it will be conclusive.[5]

§ 299. In the second place, although acquiescence cannot be presumed without knowledge, such knowledge may be pre-

[1] A plea that the thing claimed to have been invented, was in use and for sale before the application, &c., is demurrable, unless it aver an abandonment, or that the sale, &c., was more than two years before the application. Root *v.* Ball, 4 M'Lean, 177.

[2] Pennock *v.* Dialogue; Shaw *v.* Cooper; Mellus *v.* Silsbee, 4 Mas. 108.

[3] Shaw *v.* Cooper.

[4] Mellus *v.* Silsbee, 4 Mas.

[5] *Ibid.*; Shaw *v.* Cooper.

sumed from the circumstances, and is not always required to be proved by direct evidence.[1]

§ 300. In the third place, no particular lapse of time is necessary to be shown, after knowledge and acquiescence are established, in order to prove an abandonment or dedication to the public. In one of the cases, the invention was made in the year 1804, and suffered to go into general use without any claim of an exclusive right, or any objection, and without receiving any compensation, until the year 1822.[2] In another case, the invention was completed in 1811, and the letters-patent were obtained in 1818; in the interval, a single individual had made and publicly sold large quantities of the thing patented, under an agreement with the inventor as to price.[3] In a third case, the inventor, who was a foreigner, came to this country in 1817, and might lawfully have applied for a patent in 1819, but did not do so until three years afterwards. It appeared that he invented the instrument in 1813 or 1814, and made it known to certain persons in England, by or through whom, contrary to his intention, it was publicly used and sold there.[4] In a fourth case, in England, the patentee had sold the article, in the public market, four months before the date of the patent.[5] In all these cases, the patentee was held to have abandoned or dedicated to the public his right in the invention.

§ 301. But, on the other hand, it is a still further question, what constitutes a public use, with the consent or allowance of the patentee? What acts, in other terms, within a longer or shorter period of time, or what permission to use, granted

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1 Shaw *v.* Cooper, 7 Peters, 292, 321.
2 Mellus *v.* Silsbee, 4 Mas.
3 Pennock *v.* Dialogue.
4 Shaw *v.* Cooper, 7 Peters, 292.
5 Wood *v.* Zimmer, 1 Holt, N. P. C. 60.

or allowed to several persons, or restricted to a single instance, or what use by the patentee himself, will amount to an abandonment or dedication to the public? Is the intention with which the acts are done, or the use permitted, an element in the question, or is the intention wholly immaterial, provided certain acts are done, or a certain use is permitted? In determining these questions, it is necessary to discriminate between the cases of a use permitted to others, or of a knowledge imparted to others, and the exercise or practice of the invention by the patentee himself.

§ 302. In the case of Shaw *v.* Cooper, already referred to, the Supreme Court of the United States said, that the intention of the inventor is not the true ground in these cases; that, "whatever may be his intention, if he suffers the invention to get into public use, through any means whatsoever, without an immediate assertion of his right, he is not entitled to a patent; nor will a patent, obtained under such circumstances, protect his right."[1] The meaning of this obviously is, that, no matter what the intention of the patentee was, in imparting to another a knowledge of his invention, if the person or persons to whom he had so imparted it, afterwards, though fraudulently, use the invention in public, and the patentee looks on without objection or assertion of his right, the public will have become possessed of the invention, and the patentee cannot resume his right in it by obtaining a patent. This meaning is apparent from other parts of the opinion in the same case; for the court say, that, if the invention has become known to the public through fraudulent means, the patentee should assert his right immediately, and take the necessary steps to legalize it.[2] So, too, it is appa-

[1] 7 Peters, 292, 323.

[2] "Vigilance is necessary to entitle an individual to the privileges secured under the patent law. It is not enough that he should show his right by invention, but he must secure it in the mode required by law. And if the invention, through fraudulent means, shall be made known to the public,

rent, from the opinion of the same court in Pennock *v.* Dialogue, that it is the voluntary acquiescence of the inventor in

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he should assert his right immediately, and take the necessary steps to legalize it.

The patent law was designed for the public benefit, as well as for the benefit of inventors. For a valuable invention, the public, on the inventor's complying with certain conditions, give him, for a limited time, the profits arising from the sale of the thing invented. This holds out an inducement for the exercise of genius and skill, in making discoveries which may be useful to society and profitable to the discoverer. But it was not the intention of this law to take from the public that of which they were fairly in possession.

In the progress of society, the range of discoveries in the mechanic arts, in science, and in all things which promote the public convenience, as a matter of course, will be enlarged. This results from the aggregation of mind, and the diversities of talents and pursuits, which exist in every intelligent community. And it would be extremely impolitic to retard or embarrass this advance, by withdrawing from the public any useful invention or art, and making it a subject of private monopoly. Against this consequence, the legislature have carefully guarded in the laws they have passed on the subject. It is undoubtedly just that every discoverer should realize the benefits resulting from his discovery, for the period contemplated by law. But these can only be secured by a substantial compliance with every legal requisite. His exclusive right does not rest alone upon his discovery, but also upon the legal sanctions which have been given to it, and the forms of law with which it has been clothed.

No matter by what means an invention may be communicated to the public, before the patent is obtained; any acquiescence in the public use, by the inventor, will be an abandonment of his right. If the right were asserted by him who fraudulently obtained it, perhaps no lapse of time could give it validity. But the public stand in an entirely different relation to the inventor. The invention passes into the possession of innocent persons, who have no knowledge of the fraud, and, at a considerable expense, perhaps, they appropriate it to their own use. The inventor or his agent has full knowledge of these facts, but fails to assert his right; shall he afterwards be permitted to assert it with effect? Is not this such evidence of acquiescence in the public use, on his part, as justly forfeits his right?

If an individual witness a sale and transfer of real estate, under certain circumstances, in which he has an equitable lien or interest, and does not make known this interest, he shall not afterwards be permitted to assert it. On this principle it is, that a discoverer abandons his right, if, before the

the *public use*, and not his voluntarily imparting the knowledge to the person who fraudulently or otherwise uses it in public, that fastens upon him the presumption of a dedication.[1] It is also clear, that, when the act or acts of user were by way of experiment, in order to perfect the invention, the inventor does not lose his right.

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obtainment of his patent, his discovery goes into public use. His right would be secured by giving public notice that he was the inventor of the thing used, and that he should apply for a patent. Does this impose any thing more than reasonable diligence on the inventor? And would any thing short of this be just to the public? The acquiescence of an inventor in the public use of an invention, can in no case be presumed, when he has no knowledge of such use. But this knowledge may be presumed from the circumstances of the case. This will, in general, be a fact for the jury. And if the inventor do not, immediately after this notice, assert his right, it is such evidence of acquiescence in the public use, as forever afterwards to prevent him from asserting it. After his right shall be perfected by a patent, no presumption arises against it from a subsequent use by the public.

When an inventor applies to the department of state for a patent, he should state the facts truly; and, indeed, he is required to do so, under the solemn obligations of an oath. If his invention has been carried into public use by fraud, but, for a series of months or years, he has taken no steps to assert his right; would not this afford such evidence of acquiescence as to defeat his application, as effectually as if he failed to state that he was the original inventor? And the same evidence which should defeat his application for a patent, would, at any subsequent period, be fatal to his right. The evidence he exhibits to the department of state is not only ex parte, but interested; and the questions of fact are left open, to be controverted by any one who shall think proper to contest the right under the patent.

A strict construction of the act, as it regards the public use of an invention, before it is patented, is not only required by its letter and spirit, but also by sound policy. A term of fourteen years was deemed sufficient for the enjoyment of an exclusive right of an invention by the inventor. But if he may delay an application for his patent, at pleasure, although his invention be carried into public use, he may extend the period beyond what the law intended to give him. A pretence of fraud would afford no adequate security to the public in this respect, as artifice might be used to cover the transaction. The doctrine of presumed acquiescence, where the public use is known, or might be known to the inventor, is the only safe rule which can be adopted on this subject." 7 Peters, 319, 320, 321, 322.

[1] 2 Peters, 1, 23.

§ 303. Hence, it appears, that the intention with which the inventor did the acts, which are relied on as proof of "public use," is material, unless the evidence goes to the extent of showing, that the invention had got beyond the control of the inventor, and he had not taken any steps to prevent its being thus situated. In other words, it may be a material element, in determining whether the presumption of acquiescence in public use arises, to ascertain whether the inventor used the invention himself, or imparted a knowledge of it to others, with or without an intention to limit such use or knowledge, in respect to time, extent, or object.

§ 304. Where a party practises his invention himself, for the purposes of experiment or completion, before he takes out a patent, the inference that he intends to surrender his invention to the public, does not arise; and, consequently, a dedication cannot be proved by evidence that shows only experimental practice by the inventor, whether in public or in private.[1] Indeed, it may be stated, as a general test, in

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[1] Wyeth *v.* Stone, 1 Story's R. 271, 280. In this case, Mr. Justice Story said: — "In the next place, as to the supposed public use of Wyeth's machine, before his application for a patent. To defeat his right to a patent, under such circumstances, it is essential that there should have been a public use of his machine, substantially as it was patented, with his consent. If it was merely used occasionally, by himself, in trying experiments, or, if he allowed only a temporary use thereof, by a few persons, as an act of personal accommodation, or neighborly kindness, for a short and limited period, that would not take away his right to a patent. To produce such an effect, the public use must be either generally allowed or acquiesced in, or, at least, be unlimited in time, or extent, or object. On the other hand, if the user were without Wyeth's consent, and adverse to his patent, it was a clear violation of his rights, and could not deprive him of his patent."

See, also, Ryan *v.* Goodwin, 3 Sumner, 518; Bentley *v.* Fleming, 1 Car. & Kirw. 587. This last case shows a strong tendency to limit the effect of use in public, by the intention of the patentee. The patent, in question, had been obtained for making a card machine; and there was evidence, that, about five or six weeks before the letters-patent were obtained, the inventor, one Thornton, had lent the machine to one N., in order that he might try

cases of a supposed dedication, through the using, exercising, or practising the invention by the patentee himself, previous to his application for a patent, that, whenever the evidence stops short of proving such a use, exercise, or practice, for the purpose of gain, a "public use" will not be proved.[1]

§ 305. It has been held, in England, where the "public use" must be a public use in England, that the making, in England, of a single pair of wheels, the subject of the patent, under the direction of the patentee, but under an injunction of secrecy, to be sent abroad, for a person who intended to take a share in the patent, was not a public use within the realm.[2] But, as our law stood before the year 1839, if the

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whether it would set the teeth of the cards. There was, also, evidence that N.'s room was in a mill, and that men were constantly going backwards and forwards, to and from the said room. It appeared, moreover, that, for some weeks before the time at which the machine was lent to N., it had been in complete working condition. On this evidence, it was submitted, on the part of the defendant, that the plaintiff was out of Court — first, on the ground that the machine had been publicly used in N.'s room, which was a public room, before the granting of the letters-patent; and, on this point, the case of Wood *v.* Zimmer was referred to. Cresswell, J., said: — "Have you any case that goes that length? The case referred to, was the case of an absolute sale; but, here, there is no evidence that the machine was given to N., *for the purpose of giving it publicity.* The evidence merely is, that Thornton lent the machine to N., in order that he might discover whether it really was worth while to take out a patent for it, or not. I cannot stop the case on that point."

[1] *Post*, § 305, note.

[2] Morgan *v.* Seaward, Webs. Pat. Cas. 189, 193. In this case, Parke, B., said: — "The evidence was, that, before the date of the patent, (which was the 22d of July, 1829,) Curtis, an engineer, made for Morgan two pairs of wheels, upon the principle mentioned in the patent, at his own factory. Galloway, the patentee, gave the instructions to Curtis, under an injunction of secrecy, because he was about to take out a patent. The wheels were completed and put together, at Curtis's factory, but not shown, or exposed to the view, of those who might happen to come there. After remaining a short time, the wheels were taken to pieces, packed up in cases, and shipped,

inventor sold to any one, who might choose to buy, although it was only a single specimen of his invention, and sold for

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in the month of April, on board a vessel in the Thames, and sent, for the use of the Venice and Trieste Company, of which Morgan was managing director, and which carried on its transactions abroad, but had shareholders in England. Curtis deposed, that 'they were sold to the Company,' without saying by whom; which may mean, that they were sold by Curtis to Morgan for the Company, and Morgan paid Curtis for them. Morgan and Galloway employed an attorney, who entered a caveat against any patent, on the second of March, and afterwards solicited the patent in question, which was granted to Galloway, and assigned to Morgan. Upon these facts, the question for us to decide is, whether the jury must have necessarily found for the defendants, or, whether they might have found that this invention, at the date of the letters-patent, was new, in the legal sense of that word. The words of the statute are, that grants are to be good, 'of the sole working or making of any manner of new manufactures within this realm, to the first and true inventor or inventors of such manufactures, which others, at the time of the making of such letters-patent and grants, did not use;' and the proviso, in the patent in question, founded on the statute, is, that, if the invention be not a new invention, as to the public use and exercise thereof in England, the patent should be void. The word 'manufacture,' in the statute, must be construed in one of two ways; it may mean, the machine when completed, or the mode of constructing the machine. If it mean the former, undoubtedly there has been no use of the machine, as a machine, in England, either by the patentee himself, or any other person; nor, indeed, any use of the machine in a foreign country, before the date of the patent. If the term 'manufacture,' be construed to be, 'the mode of constructing the machine,' there has been no use or exercise of it in England, in any sense which can be called 'public.' The wheels were constructed under the direction of the inventor, by an engineer and his servants, with an injunction of secrecy, on the express ground, that the inventor was about to take out a patent, and that injunction was observed; and this makes the case, so far, the same as if they had been constructed by the inventor's own hands, in his own private workshop, and no third person had seen them, whilst in progress. The operation was disclosed, indeed, to the plaintiff, Morgan, but there is sufficient evidence that Morgan, at that time, was connected with the inventor, and designing to take a share in the patent. A disclosure of the nature of the invention to such a person, under such circumstances, must, surely, be deemed private and confidential. The only remaining circumstance is, that Morgan paid for the machines, with the privity of Galloway, on behalf of the Venice and Trieste Steam Company,

profit on it, as an invention, such a sale would be a "public use;" and the unlimited nature of the object, with which a

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of which he was the managing director; but there was no proof that he had paid more than the price of the machines, as for ordinary work of that description; and the jury would also be well warranted in finding, that he did so with the intention that the machine should be used abroad only, by this company, which, as it carried on its transactions in a foreign country, may be considered as a foreign company; and the question is, whether this solitary transaction, without any gain being proved to be derived thereby, to the patentee or to the plaintiff, be a use or exercise, in England, of the mode of construction, in any sense which can be deemed a use by others, or a public use, within the meaning of the statute and the patent. We think not. It must be admitted, that, if the patentee himself had, before his patent, constructed machines for sale, as an article of commerce, for gain to himself, and been in the practice of selling them publicly, that is, to any one of the public who would buy, the invention would not be new at the date of the patent. This was laid down in the case of Wood *v.* Zimmer, (Holt. N. P. C. 58, and Webs. Pat. Cas. 44, n.) and appears to be founded on reason; for, if the inventor could sell his invention, keeping the secret to himself, and, when it was likely to be discovered by another, take out a patent, he might have, practically, a monopoly, for a much longer period than fourteen years. Nor are we prepared to say, that, if such a sale was of articles that were only fit for a foreign market, or to be used abroad, it would make any difference; nor, that a single instance of such a sale, as an article of commerce, to any one who chose to buy, might not be deemed the commencement of such a practice, and the public use of the invention, so as to defeat the patent. But, we do not think that the patent is vacated, on the ground of the want of novelty, and the previous public use, or exercise of it, by a single instance of a transaction such as this, between the parties, connected as Galloway and the plaintiff are, which is not like the case of a sale to any individual of the public, who might wish to buy; in which it does not appear, that the patentee has sold the article, or is to derive any profit from the construction of his machine, nor that Morgan himself is; and in which the pecuniary payment may be referred merely to an ordinary compensation, for the labor and skill of the engineer, actually employed in constructing the machine; and the transaction might, upon the evidence, be no more, in effect, than that Galloway's own servants had made the wheels; that Morgan had paid them for the labor, and afterwards sent the wheels, to be used by his own copartners, abroad. To hold this to be what is usually called a publication of the invention in England, would be to defeat a patent, by much slighter circumstances than have yet been permitted to have that effect."

knowledge of the invention was imparted, would prevent him from resuming his exclusive right, by a subsequent patent.[1] It will presently be stated, how far the law has been modified in this respect.

§ 306. Another limitation to the doctrine of presumptive dedication, or public use, with the consent, &c., is found in the case of a piratical user of the invention, by a party to whom the inventor has imparted a knowledge of it in confidence, before he has applied for a patent. Many inventions can be perfected and carried into practice only through the aid of workmen, servants and other *employées*. We have seen that an inventor may intrust another person, confidentially, with a knowledge of his invention, for certain limited purposes; and, if such a person afterwards fraudulently makes public the knowledge so acquired, the authorities seem to be agreed, that the inventor may, if he takes immediate steps to give notice of his exclusive right, obtain a valid patent.[2] The words of the statute, describing the defence, now under consideration, make it clear that, if the invention has come into public use through a breach of confidence, it cannot be said to be in public use "with the consent or allowance" of the patentee; it is only when he has been silent, after it has so become public, that the presumption of consent and allowance arises.[3] The Act of 1839, as will appear hereafter, has made this point still more clear. Another instance of a use which will not expose the patentee to the consequences of this defence, is that suggested, on more than one occasion, by Mr. Justice Story, where the use has been permitted to others, for other limited purposes than those of experiment or

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[1] *Ibid.* Wood *v.* Zimmer, 1 Holt, N. P. C. 60.

[2] Pennock *v.* Dialogue, 2 Peters, 1; Shaw *v.* Cooper, 7 Peters, 292; Mellus *v.* Silsbee, Grant *v.* Raymond, 6 Peters, 248, 249; McClurg *v.* Kingsland, 1 Howard, 202, 207.

[3] Ryan *v.* Goodwin, 3 Summer, 518; Pierson *v.* The Eagle Screw Company, 3 Story's R. 406, 407, 408.

completion, as from motives of neighborly kindness, and the like.[1] The test that is afforded by the case of Morgan *v.* Seaward, above cited, is applicable here also; namely, that the evidence excludes the supposition that the patentee had put the thing into public use, for the purpose of profit on it, as an invention.[2] If a patentee could show clearly, that he had allowed to others a limited use of his invention, not for his own profit, but for their accommodation, in a manner consistent with a clear intention to hold the exclusive privilege, and the invention had not got beyond his control, with his apparent acquiescence, he would not be within the mischief of this part of the statute. Of course, mere delay to take out a patent, unaccompanied by public use or sale of the thing, with the consent or allowance of the patentee, before his application, however long may be the interval between the completion of the thing and the application, will have no effect upon the patent.[3] Mere delay has no other importance, than as it tends to show acquiescence in such public use as may have occurred in the mean time; or to show that the acts of the inventor went beyond a use, or permission to use, for the purpose of experiment, or other limited object.

§ 307. It now remains to be stated, how far this defence of a "prior public use or sale with the consent or allowance"

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[1] Mellus *v.* Silsbee, 4 Mas. 111; Wyeth *v.* Stone, 1 Story's R. 280, 281; Ryan *v.* Goodwin, 3 Sumner, 518.

[2] Cited *ante*.

[3] Ryan *v.* Goodwin, 3 Sumner, 519. In the case of Bentley *v.* Fleming, 1 Car. & Kirw. 587, 588, it was contended that, inasmuch as the machine in question was a complete workable machine for a long period before the letters-patent were taken out, it did not form the subject of a patent at all. Cresswell, J.—"A man cannot enjoy his monopoly by procuring a patent, after having had the benefit of the sale of his invention. But you cannot contend, that, if a man were to keep his invention shut up in his room for twenty years, that circumstance, merely, would deprive him of his right to obtain a patent for it."

of the patentee has been restricted or modified by subsequent legislation. Under this clause of the Act of 1836, a use of the invention by a single person, or a sale of the thing invented to a single person, might, as we have seen, amount to a public use or sale, with the consent or allowance of the patentee. To remedy the inconvenience arising from this operation of the law, the Act of 1839, § 7, provided "that every person or corporation, who has, or shall have purchased or constructed any newly-invented machine, manufacture, or composition of matter, prior to the application, by the inventor or discoverer, for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter, so made or purchased, without liability therefor to the inventor, or any other person interested in such invention; and no patent shall be held to be invalid, by reason of such purchase, sale, or use, prior to the application for a patent, as aforesaid, except on proof of abandonment of such invention to the public; or, that such purchase, sale, or prior use, has been for more than two years prior to such application for a patent."

§ 308. This enactment enables a patentee to permit the use of his invention, by individuals, before his application, with more safety than he formerly could. Such use is not to invalidate the patent, except on proof of abandonment of the invention to the public, or that it had been continued for more than two years prior to the application for a patent. The question arises upon this provision, then, whether the particular purchase, sale, or prior use, may, of itself, under some circumstances, furnish proof of abandonment to the public, or whether such an abandonment must be proved by other cases, and by other evidence *dehors* the particular purchase, sale, or prior use, that happens to be in question. The obvious construction of the act is, that a purchase, sale, or prior use, before the application for a patent, shall not invalidate it, *unless* it amounts to an abandonment to the public;

a purchase, sale, or prior use, shall not have this effect, *per se*, but, if connected with facts which show an abandonment to the public, or if it has been for more than two years prior to the application, it will have this effect.[1] Thus, in the case of McClurg *v.* Kingsland, where the defendants used the invention for four months before the application of the inventor for a patent, such use being in public, with the consent and allowance of the patentee, he being in their employ, and making a part of the apparatus by which the invention was to be applied, but receiving no compensation for the use of his invention, and not giving any notice to the defendants not to use his invention, until, on a misunderstanding upon another subject, he left their employment; the Supreme Court of the United States said that it would be no strained construction, under such circumstances, to hold that the patent, subsequently obtained, was void; although the decision merely went to the point, that the acts of the patentee justified the presumption of a license to the defendants.[2]

§ 309. The words of the statute which thus authorizes a public use or sale by, or to individuals, prior to the application for a patent, make the subject ef such use or sale, "any newly invented machine, manufacture, or composition of matter;" and the purchaser is authorized to use, and vend to others to be used, "the specific machine, manufacture, or composition of matter," without liability to the inventor, &c.; and then the statute declares, that the patent shall still be valid, notwithstanding such prior use or sale, except on proof of the abandonment of "such invention" to the public, &c. It might admit of some doubt, upon this language, whether the invention of a method of manufacture, a process, or an art, or anything but a machine, a manufacture, or a composition of matter, is within the scope of the provision,

[1] See the comment of Mr. Justice Story, on this statute, in Pierson *v.* The Eagle Screw Company, 3 Story's R. 402, 405, 507, cited *ante*.

[2] 1 Howard, 202, 208.

and whether the purchaser could do any thing more than use, or vend to others to be used, the specific thing which he had purchased. But the Supreme Court of the United States have construed the terms, "newly invented machine, manufacture, or composition of matter," to mean, "the invention patented," whatever it may be; and the words, "the specific machine," to refer to the thing as originally invented, of which the right is afterwards secured by a patent; so that, according to the precedent afforded by the case in which this construction was adopted, this statute embraces whatever may be the subject-matter of a valid patent, although it may be a process, or method of manufacture, and not a machine, &c.[1]

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[1] McClurg *v.* Kingsland, 1 Howard, 202, 209. The Court said: "At the trial below and here, the plaintiff's counsel have contended, that this act cannot apply to the present case, inasmuch as the protection it affords to the person who had the prior use, is confined to the specific machine, &c., and does not extend to such use of the invention, or thing patented, if it does not consist of a machine, &c., as contradistinguished from the new mode or manner in which an old machine or its parts operates, so as to produce the desired effect: but, we think that the law does not admit of such construction, whether we look at its words or its manifest objects, when taken in connection with former laws, and the decisions of this Court in analogous cases.

"The words 'such invention' must be referred back to the preceding part of the sentence, in order to ascertain the subject-matter to which it relates, which is none other than the newly invented machine, manufacture, or composition of matter constituting the thing patented, otherwise these words become senseless when the invention is not strictly of a machine, &c. Now, in the present case, we find the invention consists solely in the angular direction given to the tube through which the metal is conducted into the cylinder in which the roller is cast. Every part of the machinery is old, the roller itself is no part of the invention, and cannot be the machine, manufacture, or composition of matter contemplated by Congress, nor can the word 'specific' have any practical effect, unless it is applied to the thing patented, whatever it may be, without making a distinction between a machine, &c., and the mode of producing a useful result, by the mere direction given to one of the parts of an old machine. Such a construction is not justified by the language of the law, and would defeat both of its objects. If it does not embrace the case before us, the consequence would be that the use of the invention, under the circumstances in evidence, would, according to the deci-

§ 310. The result, therefore, of the different statute provisions and the authorities is, that this defence of a prior public use or sale, with the consent or allowance of the patentee, can now be made good so as to invalidate a patent, only by showing an abandonment to the public, or that the use or sale dates from a period more than two years before the application for a patent; that such an abandonment will not

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sion in 2 Peters, 14, 15, invalidate the patent; for, if the act operates to save the avoidance of the patent, it must, of consequence, protect the person who uses the invention before the application for a patent. Both objects must be effected, or both must fail, as both parts of the act refer to the same thing, and the same state of things, as affecting the person using the newly-invented machine, or the thing patented, as well as the inventor. Had the words 'invention,' or 'thing patented,' been used instead of machine, &c., there could have been no room for doubt of the application of the act to the present case; and, by referring to the phraseology of the different acts of Congress, denoting the invention, it is apparent that, though there is a difference in the words used, there is none as to their meaning or reference to the same thing. Thus, we find in the fourteenth section of the Act of 1836, relating to suits for using 'the thing whereof the exclusive right is secured by any patent;' in the fifteenth, 'his invention, his discovery, the thing patented,' 'that which was in fact invented or discovered,' 'the invention or discovery for which the patent issued,' 'that of which he was the first inventor.' In the first section of the Act of 1839, 'any patent for any invention, discovery, or improvement,' 'inventions and discoveries;' in the second section, 'the invention;' in the third, 'invention or discovery;' in the fourth, 'patented inventions and improvements;' in the fifth, 'the thing as originally invented.' 2 Story, 2510, 2511, 2546.

"We therefore feel bound to take the words 'newly-invented machine, manufacture, or composition of matter,' and 'such invention,' in the Act of 1839, to mean 'the invention patented,' and the words 'specific machine,' to refer to 'the thing as originally invented,' whereof the right is secured by patent; but not to any newly-invented improvement on a thing once patented. The use of the invention, before an application for a patent, must be the specific improvement then invented and used by the person who had purchased, constructed or used the machine to which the invention is applied; so construed, the objects of the Act of 1839 are accomplished; a different construction would make it necessary to carry into all former laws the same literal exposition of the various terms used to express the same thing, and, thereby, changing the law according to every change of mere phraseology, make it a labyrinth of inextricable confusion."

be proved by the particular act of use or sale alone, but that the act of use or sale may be attended with such circumstances as to amount to an abandonment; and that the abandonment may also be proved by other acts or omissions disconnected with the particular use or sale, which the patentee may have allowed to individuals, and which he can show did not alone amount to an abandonment.[1]

§ 311. The next special defence stated in the Act of 1836, is, "that the patentee had surreptitiously or unjustly obtained the patent for that which was in fact invented or discovered by another, who was using reasonable diligence in adapting and perfecting the same." This provision was intended to embrace the case of a patent being obtained fraudulently, when the party obtaining it was not the inventor, and also the case of two independent inventors, where the one makes his application before the other, who was the first inventor, and so obtains a patent for that which was previously invented by another.

§ 312. With regard to the first case, of a patent obtained by a person not the inventor, by a fraud on the rights of the real inventor, it is sufficient to observe that such a defence, if made out, would be a complete bar to the action, upon general principles, as well as upon other provisions of the statute. One of the modes in which a patent may be thus surreptitiously obtained, is, by obtaining a knowledge of the invention from the public records where the inventor has deposited a description of it. When the real inventor has filed such a description at the Patent Office, or has obtained a patent, he has given notice to every subsequent applicant for a patent for the same thing, of the fact that he invented it; and, although others may not afterwards be able to offer direct

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[1] As to an abandonment or dedication after the patent has been obtained, see the case Wyeth *v.* Stone, 1 Story's R. 73.

evidence, that a subsequent patentee had seen and pirated the machine or other thing invented by the former applicant or patentee, yet the jury may infer a piracy from the existence of the former record, of which every subsequent patentee is presumed to have knowledge.[1] As to the case of two independent inventors, one of whom makes an earlier application than another for a patent, and succeeds in obtaining it, it will be a good defence to an action upon such a patent, if it can be shown that the same thing was first invented by another, although not actually perfected, provided the first inventor was, at the time, using reasonable diligence in adapting and perfecting the thing invented.[2]

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[1] Odiorne *v.* Winkley, 2 Gallis. 51, 55. In this case, Mr. Justice Story said: "As to the question, whether the patent was surreptitiously obtained, there is no direct or positive proof, that Reed had ever seen Perkins's machine before he obtained a patent, but there is evidence, from which the jury may legally infer the fact, if they believe that evidence. It is a presumption of law, that, when a patent has been obtained, and the specifications and drawings recorded in the Patent Office, every man who subsequently takes out a patent for a similar machine, has a knowledge of the preceding patent. As, in chancery, it is a maxim, that every man is presumed to have notice of any fact, upon which he is put upon inquiry by documents within his possession, if such fact could, by ordinary diligence, be discovered upon such inquiry. It is also a presumption of fact, that every man, having within his power the exact means of information, and desirous of securing to himself the benefit of a patent, will ascertain, for his own interest, whether any one on the public records has acquired a prior right."

[2] Reed *v.* Cutter, 1 Story's R. 590, 599. In this case, Mr. Justice Story said: "The passage cited from Mr. Phillips's work on Patents, (p. 395,) in the sense in which I understand it, is perfectly accurate. He there expressly states, that the party claiming a patent, must be the original and first inventor; and that his right to a patent will not be defeated by proof, that another person had anticipated him in making the invention, unless such person 'was using reasonable diligence in adapting and perfecting the same.' These latter words are copied from the fifteenth section of the Act of 1836, chapter 357, and constitute a qualification of the preceding language of that section; so that an inventor, who has first actually perfected his invention, will not be deemed to have surreptitiously or unjustly obtained a patent for that, which was in fact first invented by another, unless the latter was at the time using reasonable diligence in adapting and perfecting the same. And

§ 313. The last defence mentioned in the statute, is, that the patentee, being an alien at the time the patent was granted, "had failed and neglected, for the space of eighteen months from the date of the patent, to put and continue on sale to the public, on reasonable terms, the invention or discovery, for which the patent issued." The object of this provision was, to prevent foreign inventors from obtaining patents in this country, and afterwards withholding the use of their inventions from the public for an unreasonable length of time.

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this I take to be clearly law; for he is the first inventor in the sense of the act, and entitled to a patent for his invention, who has first perfected and adapted the same to use; and, until the invention is so perfected and adapted to use, it is not patentable. An imperfect and incomplete invention, resting in mere theory, or in intellectual notion, or in uncertain experiments, and not actually reduced to practice, and embodied in some distinct machinery, apparatus, manufacture, or composition of matter, is not, and indeed cannot be, patentable under our Patent Acts; since it is utterly impossible, under such circumstances, to comply with the fundamental requisites of those acts. In a race of diligence, between two independent inventors, he who first reduces his invention to a fixed, positive, and practical form, would seem to be entitled to a priority of right to a patent therefor. (Woodcock *v.* Parker, 1 Gallis. R. 438.) The clause of the fifteenth section, now under consideration, seems to qualify that right, by providing that, in such cases, he who invents first shall have the prior right, if he is using reasonable diligence in adapting and perfecting the same, although the second inventor has, in fact, first perfected the same, and reduced the same to practice in a positive form. It thus gives full effect to the well-known maxim, that he has the better right, who is prior in point of time, namely, in making the discovery or invention. But if, as the argument of the learned counsel insists, the text of Mr. Phillips means to affirm, (what, I think, it does not,) that he, who is the original and first inventor of an invention, so perfected and reduced to practice, will be deprived of his right to a patent, in favor of a second and subsequent inventor, simply because the first invention was not then known, or used by other persons than the inventor, or not known or used to such an extent, as to give the public full knowledge of its existence, I cannot agree to the doctrine; for, in my judgment, our Patent Acts justify no such construction."

CHAPTER III.

OF THE REMEDY IN EQUITY TO RESTRAIN INFRINGEMENTS.

§ 314. We have seen that the common law and the statute both afford a remedy, by an action for damages, for the infringement of patent-rights. But this remedy would be wholly inadequate to the protection of such rights, if it were not accompanied and fortified by another remedy, which flows from that great principle of equity jurisprudence, that, where there is a legal right, and the nature of the injury to which it is exposed is such that a preventive remedy is indispensable, equity will afford that remedy, by an injunction. The grounds of the equity jurisdiction in cases of patents are, the prevention of irreparable mischiefs, the suppression of a multiplicity of suits and vexatious litigation, and the more complete discovery, from the party guilty of infringement, of the extent of the injury done to the patentee, than can be obtained in an action at law.[1] It does not belong to the purposes of this work, to trace the origin of this branch of equity jurisdiction, nor is it necessary to do so, since the Patent Laws have expressly adopted in the broadest terms the remedy which it affords, for the protection of patent-rights, and have directed the proper courts "to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any inventor, as secured to him by any law of the United States, on such terms and conditions as the said courts may deem reasonable."[2] All

[1] 2 Story's Eq. Jurisp. § 930, 931, 932, 933.

[2] Act of July 4, 1836, c. 357, § 17.

that is requisite, therefore, in the present work, is to develop the application of the doctrines and practice of courts of equity to the rights of inventors, in the remedy by injunction.

§ 315. As a preliminary remark, however, we may notice, that the discretion vested in the Court by the terms of the statute above cited, to grant injunctions on such terms and conditions as the Court may deem reasonable, is in perfect accordance with the principles of equity.[1] This discretion is

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[1] In Bacon v. Jones, 4 Mylne & Cr. 433, 436, Lord Cottenham made the following remarks on the granting of injunctions in cases of patents: "When a party applies for the aid of the Court, the application for an injunction is made either during the progress of the suit, or at the hearing; and in both cases, I apprehend, great latitude and discretion are allowed to the Court in dealing with the application. When the application is for an interlocutory injunction, several courses are open; the Court may at once grant the injunction, simpliciter, without more — a course which, though perfectly competent to the Court, is not very likely to be taken where the defendant raises a question as to the validity of the plaintiff's title; or it may follow the more usual, and, as I apprehend, more wholesome practice in such a case, of either granting an injunction, and, at the same time, directing the plaintiff to proceed to establish his title at law, and suspending the grant of the injunction until the result of the legal investigation has been ascertained, the defendant in the mean time keeping an account. Which of these several courses ought to be taken, must depend entirely upon the discretion of the Court, according to the case made.

When the cause comes to a hearing, the Court has also a large latitude left to it; and I am far from saying that a case may not arise in which, even at that stage, the Court will be of opinion that the injunction may properly be granted without having recourse to a trial at law. The conduct and dealings of the parties, the frame of the pleadings, the nature of the patent-right, and of the evidence by which it is established — these and other circumstances may combine to produce such a result; although this is certainly not very likely to happen, and I am not aware of any case in which it has happened. Nevertheless, it is a course unquestionably competent to the Court, provided a case be presented which satisfies the mind of the judge, that such a course, if adopted, will do justice between the parties.

Again, the Court may, at the hearing, do that which is the more ordinary

not a wholly unregulated discretion, but the clause in which it is expressed is to be considered as affected by the previous direction, that the injunction is to be granted according to the course and principles of courts of equity, which are guided by certain well-settled rules; so that the terms and conditions to be imposed in each case will be ascertained, by applying to the circumstances of the case those principles and that course of practice which have been usually followed, and which will admit of a "reasonable" application to the particular facts of the case.

§ 316. I. *The Parties.* The parties entitled to relief in equity against the infringement of a patent are, first, the party or parties interested in the patent. As the remedy in equity is given in order to protect a legal right, and as the statute gives a right of action to the person or persons interested, whether as patentee assignees, or grantees of the exclusive right for a particular district, it follows that any person holding the legal title, or the right to bring an action, may bring a bill for an injunction.

§ 317. We have seen when the assignee of a patent may sue at law in his own name, and when he should join his assignor. The same rules will govern in equity, in determining who are necessary parties to the bill. If the assignee has the whole interest, he may sue alone; but if he has less than the whole interest, he must join the patentee. If the assignment has not been recorded, the assignee is not substituted to the right and responsibility of the patentee, so as to maintain any suit at law or in equity, founded upon the patent;[1] and where there is a joint suit by the patentee and

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course; it may retain the bill, giving the plaintiff the opportunity of first establishing his right at law. There still remains a third course, the propriety of which must also depend upon the circumstances of the case, that of at once dismissing the bill."

[1] Wyeth *v.* Stone, 1 Story's R. 273, 295. Story, J.: "The objection

the assignee, and a disclaimer has been filed by the patentee, in which the assignee did not join, the disclaimer cannot operate in favor of the complainants in such a bill, or in an action at law.[1]

§ 318. There is, however, one distinction, between an action at law and a suit in equity, in respect to the parties; and that is, the case of an assignment of the exclusive right, for a particular district. The grantee of such a right may bring an action at law, within his own district, for an infringement, even against the patentee himself, and, consequently, he may bring such an action always in his own name.[2]

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which I deem fatal, is, that the bill states and admits, that the assignment to the plaintiff, Tudor, (made in February, 1832,) has never yet been recorded in the state department, according to the provisions of the Patent Act of 1793, ch. 55, § 4. That act provides, "That it shall be lawful for any inventor, his executor or administrator, to assign the title and interest in the said invention at any time; and the assignee, having recorded the said assignment in the office of the Secretary of State, shall thereafter stand in the place of the original inventor, both as to right and responsibility." It seems a necessary, or, at least, a just inference, from this language, that, until the assignee has so recorded the assignment, he is not substituted to the right and responsibility of the patentee, so as to maintain any suit at law or in equity, founded thereon. It is true, that no objection is taken in the pleadings on account of this defect; but it is spread on the face of the bill, and, therefore, the Court is bound to take notice of it. It is not the case of a title defectively set forth, but of a title defective in itself, and brought before the Court with a fatal infirmity, acknowledged to be attached to it. As between the plaintiffs and the defendants, standing upon adverse titles and rights, (whatever might be the case between privies in title and right,) Tudor has shown no joint interest sufficient to maintain the present bill; and, therefore, it must be dismissed with costs."

[1] *Ibid.* 294.

[2] The sixth question certified is as follows: Whether the plaintiff, if he be an assignee of an exclusive right to use two of the patented machines, within the town of Watervliet, has such an exclusive right, as will enable him to maintain an action for an infringement of the patent within the said town; or whether, to maintain such action, the plaintiff must be possessed,

§ 319. But, in equity, the patentee may be joined with the assignee of such an exclusive right, if it be a right, to use a limited number of the patented machines, in a particular district; because the interest of the patentee is not all vested in the grantee, who, although he may prevent the patentee from licensing other persons within the district, cannot obtain for himself the right to use more machines than the original grant authorized, without paying the patentee for such further license. This interest renders the patentee a proper party, in such a bill.[1] Different persons, who have infringed a patent independently of each other, cannot be made defendants in the same bill.[2]

§ 320. II. *The Bill.* A bill, for an injunction to restrain the infringement of a patent, after the address to the Court, and the statement of the parties, should recite the application for the letters-patent, by the inventor, and the compliance, by him, with all the prerequisites for obtaining them, and the issue of the letters, giving the title, as it is contained in them, *verbatim*, their attestation by the proper officers, and their delivery to the patentee. Profert of the

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as to that territory, of all the rights of the original patentee. The plaintiff is the grantee of the exclusive right to construct and use, and to vend to others, to be used, two of the patented machines, within the town of Watervliet, in the county of Albany. The fourteenth section of the Patent Law authorizes any person, who is a grantee of the exclusive right in a patent, within and throughout a specified portion of the United States, to maintain an action, in his own name, for an infringement of the right. The plaintiff comes within the very terms of the section. Although limited to the use of two machines, within the town, the right to use them is exclusive. No other party, not even the patentee, can use a right, under the patent, within the territory, without infringing the grant." Wilson *v.* Rousseau, 4 Howard, 646, 686.

[1] Woodworth *v.* Wilson, 4 Howard, 712. It had been previously held, that the grantee for a particular district can maintain a bill, for an injunction and account. Ogle *v.* Ege, 4 Wash. 584.

[2] Dilly *v.* Doig, 2 Ves. Jr. 487.

letters should be made, but it is not necessary to set forth the description of the invention, given in the specification.[1] It is necessary, however, to state, that the plaintiff, after the issuing of the patent, put his invention into use, and is, at the time of filing the bill, in the exclusive possession of it.[2] If the bill is brought upon the title of an assignee, either of the whole or a part of the interest, or of an administrator, or if the patent has been renewed, or extended, or amended by a disclaimer, the facts should be properly set forth, to show the present state of the title, and the right for which protection is asked. The bill should further state the infringement complained of, whether it has been actually committed, or is threatened; and, if the right has been previously established, by an action at law, against the same or any other party, or an injunction has been previously obtained, against the same or any other party, the fact should be set forth.[3] These averments are usually followed by a statement, that the defendant has been requested to desist from the use of the invention, and to account for the damages, which the plaintiff has sustained. Then follows the charge of actual combination, by the defendant, with others, if the facts require it, and of a conspiracy, if one is intended to be proved, to destroy the plaintiff's exclusive privilege. The prayer of the bill is, for a discovery, upon oath, and particular answers to the interrogatories, which should be pointed at all the previous material averments in the bill; for a general answer to the bill; for a decree, that the defendant account for and pay over the gains and profits, which have accrued to him from using the invention; for an injunction, to restrain the defendant from the further use of the invention; and to compel the delivery or destruction of

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[1] Kay *v.* Marshall, 1 M. & Cr. 373; Westhead *v.* Keane, 1 Beav. 287.

[2] Isaacs *v.* Cooper, 4 Wash. 359.

[3] See the observations of Mr. Justice Story, cited from Woodworth *v.* Stone, *post.* See, also, Orr *v.* Littlefield, 1 Woodbury & M. 13.

the machines, or other things which he has made; and for further relief. The prayer should close with asking for a writ of injunction, and a subpœna. The bill should be sworn to, by the usual affidavit.

§ 321. It may often be a serious question, whether an original bill, filed for an injunction and other relief, is affected by a subsequent surrender and renewal of the patent, pending the proceedings. In a case where this had happened, and a temporary injunction had been granted, on the original bill, in which the patentee and certain assignees were plaintiffs, and, upon the new patent, a supplemental bill was filed against the defendant, for the continuance of the injunction and other relief, the injunction was ordered to stand continued, as to the new patent, stated in the supplemental bill, until the hearing, or farther order. Hence it appears, that, when a patent is surrendered and renewed, pending a temporary injunction, a supplemental bill is necessary, in order to continue the injunction, as to the new patent.[1]

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[1] Woodworth *v.* Stone, 3 Story's R. 749, 750. Story, J.: — "If the present case had stood merely upon the original bill, it appears to me clear, that the motion to dissolve the injunction, granted upon that bill, ought to prevail; because, by the surrender of the patent upon which that bill is founded, the right to maintain the same would be entirely gone. I agree, that it is not in the power of the patentee, by a surrender of his patent, to affect the rights of third persons, to whom he has previously, by assignment, passed his interest in the whole or a part of the patent, without the consent of such assignees. But, here, the supplemental bill admits, that the assignees, who are parties to the original and supplemental bill, have consented to such surrender. They have, therefore, adopted it, and it became theirs, in the same manner as if it had been their personal act, and done by their authority.

The question, then, is precisely the same as if the suit were now solely in behalf of the patentee. In order to understand, with clearness and accuracy, some of the objections to the continuance of the injunction, it may be necessary to state, that the original patent to William Woodworth, (the inventor,) who is since deceased, was granted on the 27th of December, 1828. Subsequently, under the 18th section of the Act of 1836, ch. 357, the Commis-

§ 322. III. *The Injunction.* We have now to state, in the first place, the general principles on which Courts of Equity

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sioner of Patents, on the 16th of November, 1842, recorded the patent, in favor of William W. Woodworth, the administrator of William Woodworth, (the inventor,) for seven years from the 27th of December, 1849, (to which time the renewed patent extended); and the Commissioner of Patents was directed to make a certificate of such extension, in the name of the administrator of William Woodworth, (the inventor,) and to append an authenticated copy thereof to the original letters-patent, whenever the same shall be requested, by the said administrator or his assigns. The Commissioner of Patents, accordingly, on the 3d of March, 1845, at the request of the administrator, made such certificate on the original patent. On the 8th of July, 1845, the administrator surrendered the renewed patent granted to him, 'on account of a defect in the specification.' The surrender was accepted, and a new patent was granted, on the same day, to the administrator, reciting the preceding facts, and that the surrender was 'on account of a defective specification,' and declaring, that the new patent was extended for fourteen years from the 27th of December, 1828, 'in trust for the heirs at law of the said William Woodworth, (the inventor,) their heirs, administrators, or assigns.'

Now, one of the objections taken to the patent, is, that it is for the term of fourteen years, and not for the term of seven years, or for two successive terms of seven years. But, it appears to me, that this objection is not well founded, and stands *inter Apices juris;* for the new patent should be granted for the whole term of fourteen years from the 27th of December, and the legal effect is the same as it would be if the patent was specifically renewed for two successive terms of seven years. The new patent is granted for the unexpired term only, from the date of the grant, namely, for the unexpired period existing on the 8th of July, 1845, by reference to the original grant, in December, 1828. It is also suggested, that the patent ought not to have been in trust for the heirs at law of the said William Woodworth, their heirs, administrators, or assigns. But this is, at most, a mere verbal error, if, indeed, it has any validity whatsoever; for the new patent will, by operation of law, enure to the sole benefit of the parties in whose favor the law designed it should operate, and not otherwise. It seems to me, that the case is directly within the purview of the 10th and 13th sections of the Act of 1836, ch. 357, taking into consideration their true intent and objects.

Another objection, urged against the continuation of the injunction, is, that the breach of the patent, assigned in the original bill, can have no application to the new patent, and there is no ground to suggest, that, since

proceed, in granting, continuing, or dissolving injunctions, in cases of patents. To obtain an injunction, the plaintiff

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the injunction was granted, there has been any new breach of the old patent, or any breach of the new patent. But, it is by no means necessary that any such new breach should exist. The case is not like that of an action at law for the breach of a patent, to support which, it is indispensable to establish a breach, before the suit was brought. But, in a suit in equity, the doctrine is far otherwise. A bill will lie for an injunction, if the patent-right is admitted, or has been established, upon well-grounded proof of an apprehended intention of the defendant, to violate the patent-right. A bill, *quia timet*, is an ordinary remedial process in equity. Now, the injunction already granted (supposing both patents to be for the same invention,) is, *primâ facie*, evidence of an intended violation, if not of an actual violation. And the affidavit of James N. Buffum is very strong, and direct evidence to this same effect.

But, the most material objection taken is, that the new patent is not for the same invention as that which has been surrendered. And, certainly, if this be correct, there is a fatal objection to the prolongation of the injunction. But, is the objection well founded, in point of fact? It is said, that the present patent is for a combination only, and that the old patent was for a combination and something more, or different. But, I apprehend that, upon the face of the present patent, the question is scarcely open for the consideration of the Court; and, at all events, certainly not open in this stage of the cause. I have already, in another cause, had occasion to decide, that, where a Commissioner of Patents accepts a surrender of an old patent, and grants a new one, under the Act of 1836, ch. 357, his decision, being an act expressly confided to him by law, and dependent upon his judgment, is not reëxaminable elsewhere; and that the Court must take it to be a lawful exercise of his authority, unless it is apparent, upon the very face of the patent, that he has exceeded his authority, and there is a clear repugnancy between the old and the new patent, or, the new one has been obtained by collusion between the Commissioner and the patentee. Now, upon the face of it, the new patent, in the present case, purports to be for the same invention, and none other, that is contained in the old patent. The avowed difference, between the new and the old, is, that the specification, in the old, is defective, and that the defect is intended to be remedied in the new patent. It is upon this very ground, that the old patent was surrendered, and the new patent was granted. The claim, in the new patent, is not of any new invention; but of the old invention, more perfectly described and ascertained. It is manifest, that, in the first instance, the Commissioner was the proper judge, whether the invention was the same or not, and, whether there

must accompany his application with an affidavit, that he then believes himself to be the original and first inventor of the thing patented; for, it is said, although, when he obtained his patent he might have, very honestly, sworn as to his belief of such being the fact, yet circumstances may have subsequently intervened, or information may have been communicated, sufficient to convince him that it was not his own original invention, and that he was under a mistake when he applied for his patent.[1] Such a special affidavit was required,

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was any deficit in the specification or not, by inadvertence, accident, or mistake; and, consequently, he must have decided that the combination of machinery, claimed in the old patent, was, in substance, the same combination and invention, claimed and described in the new. My impression is, that, at the former trial of the old patent, before me, I held the claim substantially, (although obscurely worded,) to be a claim for the invention of a particular combination of machinery, for planing, tonguing, and grooving, and dressing boards, &c.; or, in other words, that it was the claim of an invention of a planing machine, or planing apparatus, such as he had described in his specification.

It appears to me, therefore, that, *primâ facie*, and, at all events, in this stage of the cause, it must be taken to be true, that the new patent is for the same invention as the old patent; and that the only difference is, not in the invention itself, but in the specification of it. In the old, it was defectively described and claimed. In the new, the defects are intended to be remedied. Whether they are effectually remedied, is a point not now properly before the Court. But, as the Commissioner of Patents has granted the new patent, as for the same invention as the old, it does not appear to me, that this Court is now at liberty to revise his judgment, or to say that he has been guilty of an excess of authority, at least (as has been already suggested) not in this stage of the cause; for that would be, for the Court, of itself, to assume to decide many matters of fact, as to the specification, and the combination of machinery in both patents, without any adequate means of knowledge, or of guarding itself from gross error. For the purpose of the injunction, if for nothing else, I must take the invention to be the same in both patents, after the Commissioner of Patents has so decided, by granting the new patent.

Upon the whole, therefore, I do order and direct, that the injunction do stand continued, as to the new patent, stated in the supplemental bill, until the hearing, or farther order of the Court."

[1] Hill *v.* Thompson, 3 Meriv. 622, 624; Sturz *v.* De La Rue, 5 Russ. Ch.

by Mr. Justice Washington, to be subjoined to a bill.[1] And it is the usual practice, on moving for an injunction, before the answer has been filed, to read such an affidavit, as well as others, to the same purport.[2]

§ 323. In the courts of the United States, notice that an injunction is to be applied for, must be served on the defendant, as no injunction, whether temporary or final, can be granted without reasonable previous notice to the adverse party, or his attorneys, of the time and place of moving for the same.[3] Injunctions, therefore, are not granted in our courts on *ex parte* applications, in cases of patents, although they may be granted on filing the bill and before answer, on notice to the party to be affected, as well as after answer and upon the hearing.

§ 324. The bill and the application being, then, in proper form, the first thing to be considered is, whether the Court will require the patentee to establish his legal right by an action at law, before it grants the injunction, or whether it will grant the injunction, in the first instance, upon the proof of a legal right, furnished by the bill itself, and the accompanying affidavits. Upon this point, the rule, as it was laid down by Lord Eldon, is, that, where a patent has been granted, and there has been an exclusive possession of some duration under it, the Court will interpose its injunction, without putting the party previously to establish the validity of his patent by an action. But where the patent is but of yesterday, and, upon an application being made for an injunction, it is endeavored to be shown, in opposition to it, that there is no

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R. 322. The same reason exists, at the time of the application, although the bill itself was sworn to when filed.

[1] Rogers *v.* Abbott, 4 Wash. 514; Ogle *v.* Ege, Ibid. 584.

[2] See, further, as to affidavits, *post*, at the end of this chapter.

[3] Act 2d March, 1793, ch. 22, § 5; Perry *v.* Parker, 1 Woodbury & M. 280, 281.

good specification, or, otherwise, that the patent ought not to have been granted, the Court will not, from its own notions upon the matter in dispute, act upon the presumed validity or invalidity of the patent, without the right having been ascertained by a previous trial, but will send the patentee to law, to establish the validity of his patent in a court of law, before it will grant him the benefit of an injunction.[1]

§ 325. The rule, thus stated, has been followed by our own courts, with further explanations, which extend its application to the particular facts of the cases that have arisen. Thus, Mr. Justice Washington laid down the rule as follows: that the practice is, to grant an injunction upon the filing of the bill, and before a trial at law, if the bill state a clear right, and verify the same by affidavit. If the bill states an exclusive possession of the invention, or discovery, an injunction is granted, although the Court may feel doubts as to the validity of the patent. But if the defects in the patent or specification are so glaring that the Court can entertain no doubt as to that point, it would be most unjust to restrain the defendant from using a machine, or other thing, which he may have constructed, probably, at great expense, until a decision at law can be had.[2] Upon another occasion, the same learned judge laid down the general rule in these terms, that, where the bill states a clear right to the thing patented, which, together with the alleged infringement, is verified by affidavit, if he has been in possession of it, by having used or sold it in part, or in the whole, the Court will grant an injunction, and continue it till the hearing, or further order, without sending the plaintiff to law to try the right. But, if there appeared to be a reasonable doubt, as to the plaintiff's right, or as to the validity of the patent, the Court will require the plaintiff to try his title at law, sometimes accompanied with an order to expedite the trial, and will permit him

[1] Hill *v.* Thompson, 3 Meriv. 622, 624.

[2] Isaacs *v.* Cooper, 4 Wash. 259, 260.

to return for an account, in case the trial at law should be in his favor. Mr. Justice Story, in Washburn *v.* Gould, referred to and adopted the general rule laid down by Lord Eldon, in Hill *v.* Thompson. In this case, there had been a trial at law, which resulted in favor of the patentee.[1] Mr. Justice Woodbury has, in several cases, also acted upon it, with modifications, which will presently be stated.[2]

§ 326. It appears, therefore, that, upon the question of first sending the plaintiff to law, to try the validity of his patent, the general rule must be subdivided according to the aspect and position of the case before the Court. The cases may be ranged under three different classes. *First*, where there is nothing before the Court, as evidence, but the bill and the affidavits in support of it; *second*, where the injunction is asked before the final hearing, and the respondent offers evidence, either in the answer, or by affidavits, affecting the validity of the patent; *third*, where the question comes on upon the hearing, and the full proofs taken in the cause.

§ 327. These different aspects of the cause may now be considered separately, with reference to this question. *First*, where the plaintiff asks for an injunction upon the bill and affidavits, and no opposing evidence is adduced, but the respondent appears and objects. In such cases, the bill and the affidavits must show the issuing of the patent, and an exclusive possession of the right, of some duration; and, when these are shown, although the Court may feel some doubts, as to the validity of the patent, the injunction will be granted, without a previous trial at law; but if the patent contains glaring defects, so that no doubt can be entertained, or the bill is defective in material allegations, the injunction will not be granted, but the plaintiff will be required to try

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[1] 3 Story's R. 156, 169.

[2] Orr *v.* Littlefield, 1 W. & M. 13; Woodworth *v.* Hall, Ibid. 248; Hovey *v.* Stevens, Ibid. 290.

his title at law.[1] Some additional evidence, besides the mere issue of the patent, must be offered; and this evidence

[1] Hill *v.* Thompson, 3 Meriv. 622; Harmer *v.* Plane, 14 Ves. 130, 133; Isaacs *v.* Cooper, 4 Wash. 259; Ogle *v.* Ege, Ibid. 584; Woodworth *v.* Hall, 1 Woodbury & M. 248. Length of enjoyment is to be looked to, in answer to a theoretical objection to the specification. Rickford *v.* Skewes, Webs. Pat. Cas. 211, 213. In a recent case, in the first Circuit, Mr. Justice Curtis stated the doctrine applicable to this class of cases, as follows: "The first question is, whether the complainant has shown such a *primâ facie* title to the things patented, as will enable him to call on the Court to protect his right until it can be tried.

The affidavit of Pillsbury states, that the patentee, and those claiming under him, have been engaged in building these machines since the letters-patent were granted, — a period of about eight years. That, during this time, they have made and sold upwards of one hundred and fifty, and they have been put in use in Massachusetts, Maine, Ohio, Pennsylvania, and other parts of the country. That about fifty of these machines are now in daily use at Lynn, in Massachusetts, the place where they were originally introduced, and that, except in this case, the witness has not known the novelty or validity of Richards's patent disputed, nor has he known any attempt made to infringe it. No conflicting evidence has been introduced by the defendant, tending to show that the possession of the patentee has been questioned or interrupted, or that it has not been as extensively enjoyed as this witness declares, nor is the validity of the patent denied by the affidavit of the defendant.

This is such a *primâ facie* title as a court of equity is bound to protect. The familiar rule, stated by Lord Eldon, in Hill *v.* Thompson, 3 Meriv. 622, is, that, where a patent has been granted, and there has been an exclusive possession, of some duration, under it, the Court will enjoin, without putting the party previously to establish his right at law; and this rule has been followed in this and other Circuits, and is well established in England. Isaacs *v.* Cooper, 4 Wash. 259; Washburn *v.* Gould, 3 Story's R. 156, 169; Orr *v.* Littlefield, 1 W. and M. 13; Bickford *v.* Skewes, Webs. Pat. Cas. 211; Neilson *v.* Thompson, Webs. Pat. Cas. 277. It is not possible to fix any precise term of years, during which the exclusive possession must have continued. The reason for the presumption in favor of the validity of the grant, is the acquiescence of the public in the exclusive right of the patentee, which, it may reasonably be assumed, would not exist unless the right was well founded. And it is obvious, that this public acquiescence is entitled to more or less weight, according to the degree of utility of the machine, and the number of persons whose trade or business is affected by it. I am satisfied that this is a useful machine, not only because it is so stated by Pillsbury, but

will be the fact, that, after he had procured his patent, the plaintiff proceeded to put that right into exercise or use, for some time, without being disturbed; a circumstance that strengthens the probability that the patent is good, and renders it so likely, as alone often to justify the issue of an injunction in aid of it.[1] It will, also, be further additional evidence, in support of the *primâ facie* right to an injunction, that the patentee has successfully prosecuted other persons for violating it.[2]

§ 328. *Secondly.* Where the injunction is asked for before the hearing, but opposing evidence is adduced by the respondent against the validity of the patent. In these cases, several elements enter into the rule that is to guide the discretion of the Court. How far, and for what length of time there has been an exclusive possession or assertion of the right; how far the respondent has succeeded in raising doubts as to the novelty of the invention, or as to its being a patentable subject, or as to the infringement; and how far a long possession will go to counteract evidence impeaching the validity of the patent — are some of the circumstances to be weighed, in determining whether the plaintiff's *primâ facie* right to an injunction has been answered by the respondent, to that extent, that the Court will suspend the injunction, until the plaintiff has established his right by an action. It seems to be the result of all the authorities, that there is a *primâ facie* right to an injunction, without a trial at law,

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from the number which are now in use; and there can be no doubt that it affects the trade and business of a numerous and intelligent body of persons, in this and other States. In a case where, though the validity of the patent has been questioned, no specific and satisfactory ground of doubt has been laid by the defendant, this acquiescence, for a period of about eight years, dispenses with the necessity of bringing an action at law, before moving for a preliminary injunction." Foster *v.* Moore, 1 Curtis's R.

[1] Orr *v.* Littlefield, 1 Woodb. & M. 13, 16. As to length of possession, see the observations of Mr. Justice Woodbury, cited from this case, *post.*

[2] Ibid.

upon certain things being shown, namely, a patent, long possession, and infringement.[1] The question will, therefore, be, in cases of opposing evidence, where that right has been shown, whether it has been displaced by the respondent.

§ 329. When the presumption in favor of the validity of the patent has been strengthened by evidence of enjoyment and possession undisturbed for several years, and recoveries against other persons for violating it, it will not be sufficient to deprive the plaintiff of the injunction before a trial at law, for the defendant to read affidavits tending to cast doubts on the originality of the invention, especially if that evidence is answered by what is stronger on the part of the patentee.[2]

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[1] In Neilson *v.* Thompson, Webs. Pat. Cas. 277, Sir L. Shadwell, V. C., said: "It seems to me, on these affidavits, that it is sufficiently made out that there has been a use of the patent in this sense, that the right of the patentee to the benefit of the patent has been submitted to where there has been a contest, and it does not at all appear to me that the general way in which the defendants, on their affidavit, state the mode by means of which the plaintiffs succeeded in establishing the patent, is at all an answer to the two cases which are stated in Mr. Blunt's affidavit. Then I have the case of a patent, having been obtained in the year 1828, and actually enjoyed by the patentee for upwards of twelve years. *Primâ facie*, I apprehend, that gives a right to the patentee to come into Court in a case in which he can show an infringement; and the question is, has there been an infringement?"

[2] Orr *v.* Littlefield, 1 Woodb. & M. 13. In this case, Mr. Justice Woodbury said: "It is not enough that a party has taken out a patent, and thus obtained a public grant, and the sanction or opinion of the Patent Office, in favor of his right, though that opinion, since the laws were passed, requiring some examination into the originality and utility of inventions, possesses more weight. But the complainant must furnish some further evidence of a probable right; and, though it need not be conclusive evidence, — else additional hearing on the bill would thus be anticipated and superseded, — yet it must be something stronger than the mere issue, however careful and public, of the patent, conferring an exclusive right; as, in doing that, there is no opposing party, no notice, no long public use, no trial with any one of his rights. The kind of additional evidence is this: If the patentee, after the procurement of his patent, conferring an exclusive right, proceeds to put that right into exercise or use for some years, without its being disturbed,

§ 330. But when an injunction is asked before the trial and resisted, and doubts are cast on the originality and validity

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that circumstance strengthens much the probability that the patent is good, and renders it so likely, as alone often to justify the issue of an injunction in aid of it. Ogle *v.* Ege, 4 Wash. C. C. 584; 2 Story's Eq. Jur. 210; Drew on Injunc. 222; Phil. on Pat. 462. After that, it becomes a question of public policy, no less than private justice, whether such a grant of a right, exercised, and in possession so long, ought not to be protected, until avoided by a full hearing and trial. Harmer *v.* Plane, 14 Ves. 130.

In this case, the evidence is plenary and uncontradicted, as to the use and sale of this patent, by the inventor and his representative, for several years, publicly and without dispute. Computing from the original grant, the time is over nine years, and, since the reissue of the letters-patent, it is nearly three. I concur in the opinion delivered by Judge Sprague, in Orr *v.* Badger, that the time to be regarded under this view, is what has elapsed since the original issue or grant. Law Reporter for February, 1845. In Thompson *v.* Hill, 3 Meriv. 622, the time was only three years from the first grant. In Ogle *v.* Ege, 4 Wash. C. C. 584, it was but six years. And though, in some cases reported, it had been thirteen, and in others twenty years, (14 Ves. 120,) yet it is believed, that seldom has a Court refused an injunction, in applications like this, on account of the shortness of time after the grant, however brief, if long enough to permit articles or machines to be constructed, by the patentee, in conformity to his claim, and to be sold publicly and repeatedly, and they have been so used and sold, under the patent, without dispute. Here the sales were extensive and profitable, from 1836, downwards, and the right, as well as the possession, does not appear to have been contested until 1842. In Hill *v.* Thomson, 3 Meriv. 622, 624, it is true that the Court dissolved an injunction, when only about one year had elapsed since any work had been completed under the patent, and only two years since the specification was filed, the chancellor calling it a patent 'but of yesterday,' but he added that he would not dissolve it, if 'an exclusive possession of some duration' had followed; though an answer had been put in, denying all equity, and doubts existed as to the validity of the patent; and no sales under it were proved in that case. So, though the patent had been issued thirteen years, and the evidence is doubtful, as to *acquiescence* in the possession or use, an injunction may be refused. Collard *v.* Allison, 4 Mylne & Craig. 487. But, in the present case, the acquiescence appears to have been, for several years, universal.

Another species of evidence, beside the issue of the patent itself, and long use and possession under it, so as to render it probable the patent is good, and to justify an injunction, is the fact that, if the patent becomes dis-

of the patent, if the counterbalancing and fortifying circumstances of long possession, use, or sale to a considerable ex-

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puted, the patentee prosecutes for a violation of his rights, and recovers. Same authorities; Kay *v.* Marshall, 1 Mylne & Craig, 373. This goes upon the ground, that he does not sleep over his claims or interests, so as to mislead others, and that, whenever the validity of his claims has been tried, he has sustained it as if good. But such a recovery is not regarded as binding the final rights of the parties in the bill, because the action was not between them; though, when the judgment is rendered without collusion or fraud, it furnishes to the world some strong, as well as public assurance, that the patent is a good one. In this view of the evidence of this character, in the present action, it is not contradicted, nor impaired at all, by the judgments having been given on verdicts and defaults, under agreements. Such judgments, when, as is admitted here, not collusive, are as strong, if not stronger evidence of the patentee's rights, than they would have been, if the claim was so doubtful as to be sent to a jury for decision, rather than to be so little doubtful as to be admitted or agreed to, after being legally examined. Both of these circumstances, therefore, possession and judgments, unite in support of an injunction in the present case.

The only answer to the motion, as made out on these grounds, is, the evidence offered, by affidavits, on the part of the respondents, tending to cast doubt on the originality of the invention of the patentee. I say, tending to this, because some of the affidavits, at least, do not distinctly show that the person making them intended to assert that the whole of any one of the combination of particulars contained in Dr. Orr's claim, in his specification, had been used before his patent issued; because they are counteracted by other testimony, from the witnesses of the complainants, more explicit and in larger numbers; and because, in this preliminary inquiry, where the evidence is taken, without the presence or cross-examination of the opposite party, it would be unsafe to settle and decide against the validity of the patent, when a full and formal trial of it is not contemplated till further progress is made in the case. All that is required in this stage, is, the presumption before named, that the title is good. This presumption is stronger here than usual, as it arises from the issue of the patent, and an enjoyment and possession of it undisturbed for several years, beside the two recoveries against those charged with violating it.

After these, other persons can, to be sure, contest the validity of the patent, when prosecuted either in equity, or at law; but it is hardly competent for them to deprive the complainant of her right, thus acquired, to an injunction, or, in other words, to be protected in so long a use and possession, till her rights are disproved, after a full hearing; surely it is not rea-

tent, and former recoveries under it, do not exist, the injunction will not be allowed before trial.[1]

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sonable to permit it, when the affidavits of the respondents to invalidate or cast a shade over her right are met by that which is stronger, independent of the long possession, judgments, and presumptions, before mentioned. But another objection has been urged in argument. When an answer to the bill denies all equity in it, the respondents contend that an injunction would be dissolved, and hence it ought not to be imposed, if the respondent denies equity by affidavit. This may be correct, in respect to injunctions termed *common*, as these affidavits and counter-affidavits are inadmissible. Eden, 117, 326; yet, in these, the denial must be very positive and clear. Ward *v.* Van Bockelen, 1 Page, 100; Noble *v.* Wilson, Ib. 164. But the position cannot be correct in the case of injunctions called *special*, like the present one, and where facts and counter-evidence show the case to be different from what is disclosed in the affidavits, or an answer of the respondents alone. No usage or cases are found where the injunctions are dissolved, as a matter of course, on such answers, if the complainant has adduced auxiliary presumptions in favor of his right, like those in the present instance. On the contrary, the cases are numerous, where the whole is regarded as still within the sound discretion of the Court, whether to issue the injunction or refuse it; or, if issued, to dissolve or retain it. 3 Meriv. 622, 624; 2 Johns. Ch. R. 202; 3 Sumn. 74; Livingston *v.* Van Ingen, 9 Johns. R. 507, 570; Rogers *v.* Rogers, 1 Paige, 426. And where the complainant has made out not merely a grant of the patent, but possession and use, and sale under it, for some time, undisturbed, and, beside this, a recovery against other persons using it, the Courts have invariably held, that such a strong color of title shall not be deprived of the benefit of an injunction, till a full trial on the merits counteracts or annuls it. In several cases, where the equities of the bill were even denied, and in others, where strong doubts were raised, whether the patent could, in the end, be sustained as valid, the Courts decided, that injunctions should issue, under such circumstances as have before been stated in favor of the plaintiff, till an answer or final hearing; or, if before issued, should not be dissolved till the final trial, and then cease, or be made perpetual, as the result might render just. The Chancellor, in Roberts *v.* Anderson, 2 Johns. Ch. R. 202, cites 2 Vesey, 19, and Wyatt's P. R. 236; Boulton *v.* Bull, 3 Ves. 140; Universities of Oxford and Cambridge *v.* Richardson, 6 Ves. 689, 705; Harmer *v.* Plane, 14 Ves. 130; and Hill *v.* Thompson, 3 Mer. 622, 624."

There was a case before Sir L. Shadwell, V. C., where a good deal of

[1] Hovey *v.* Stevens, 1 Woodb. & M. 290, 303. The patent, in this case, had been issued less than a month before the infringement complained of.

§ 331. If the respondent succeeds in raising doubts, both as to the exclusive possession, and as to the novelty of what is claimed, and the evidence, on these points, is conflicting, the injunction will be refused, until a trial.[1]

§ 332. If the question of infringement is doubtful, it must be tried by a jury; and, in a case of this kind, Sir L. Shadwell, V. C., dissolved an injunction, and ordered an action to be brought, to try the infringement, the respondents being ordered to keep an account, and to admit the plaintiff's title to the patent.[2] The same rule would be applicable to the granting an injunction in the first instance.

§ 333. It seems, also, that another element to be considered is, the effect of the injunction on the defendant's business. As the granting of an injunction rests in the discretion of the Court, exercised upon all the circumstances of the case, and as the object of the injunction is to prevent mischief, it is said that, where irreparable mischief would ensue from it to the defendant, it ought not to be granted.[3] But this must be understood as applying to a case, where the plaintiff would not be injured by the delay, but would be left *in statu quo*, after a trial establishing the validity of his patent; or, at least, where the rights of the plaintiff are capable of being fully protected, by an account to be kept in

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doubt, as to the originality of the invention, was raised, by the introduction of a former patent and specification, but the plaintiff had enjoyed uninterrupted possession for seven years; and, the infringement being clearly shown, the injunction was granted before trial, and a trial ordered. Losh *v.* Hague, Webs. Pat. Cas. 200. In like manner, Mr. Justice Story held, that the affidavit of a single witness, after long possession, and other recoveries on the patent, would not outweigh the oath of the patentee, and the general presumption arising from the grant of the patent. Woodworth *v.* Sherman, 3 Story's R. 171, 172. See also Orr *v.* Badger, 10 Law Reporter, 465.

[1] Collard *v.* Allison, 4 M. & Cr. 487, 488.

[2] Morgan *v.* Seaward, Webs. Pat. Cas. 167.

[3] Neilson *v.* Thompson, Webs. Pat. Cas. 278, 286.

the interim; because the object of the Court is, to preserve to each party the benefit to which he is entitled.[1]

§ 334. Nor will an injunction be granted, where the plaintiff has permitted the defendant to go on and incur expense, under the expectation of receiving a certain sum, if the relations between them are such, as to allow of the defendant's disputing the plaintiff's right, as patentee.[2] But it seems that, where the defendant is estopped, at law, from denying the validity of the patent, an injunction will be granted; but if there is a real question to be tried, and a year's rent, for the use of the invention, is due, the Court will order the money to be paid into Court, to wait the event of the trial.[3]

§ 335. If the plaintiff shows the necessary possession, and an infringement has actually been committed by the defendant, the injunction will be granted, notwithstanding the defendant admits the infringement, and promises not to repeat it.[4]

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[1] *Ibid.*

[2] *Ibid.*

[3] Neilson *v.* Fothergill, Webs. Pat. Cas. 287, 289, 290. See, further, as to injunctions against licensees, *post*.

[4] Losh *v.* Hague, Webs. Pat. Cas. 200. Sir L. Shadwell, V. C.: — "It really seems to me, that this is a case in which I must grant the injunction, because, as I understand it, the wheels that the defendant has made, are certainly wheels made according to that thing for which, as I understand it, the plaintiff has taken out his patent, — the substance of part of the patent being, for making wheels that shall have the spoke and the felloe in parts of the same piece; that is, in other words, the spoke is to be made with an elbow bend, which elbow bend will constitute a part of the felloes. Now, it seems to me, that there can be no question but that the wheels complained of, as having been made by the defendant, do answer the description of the plaintiff's wheels, and I do not think it enough, on a question of injunction, for the defendant to say why he has done the thing complained of, but will not do it again. That is not the point; because, if a threat had been used, and the defendant revokes the threat, that I can understand, as making the plaintiff satisfied; but, if once the thing complained of has been done, I apprehend this Court interferes, notwithstanding any promise the defendant may make, not to do the same thing again."

§ 336. Third. The third class of cases is, where the question of granting the injunction comes on upon the final hearing; and, here, the situation of the parties is entirely different from the state of things on an interlocutory motion. The object of a bill in equity, to protect a patent, is a perpetual injunction; and this, in general, can only be granted at the hearing; and, if granted at the hearing, it will, necessarily, be perpetual. Objections raised by the defendant, therefore, to the validity of the patent, at the hearing, require a very different consideration from the Court; because the question is, whether the Court will give any assistance to a party, who might have applied for an interlocutory hearing, and so have given the defendant an opportunity to have had the legal title investigated, but has not done so. In such cases, where there are no circumstances shown, which would have prevented the plaintiff from asking for an injunction, in the progress of the cause, it will not only not be granted at the hearing, but the bill will be dismissed, with costs, if it has been pending for a long time, and the answer had denied the validity of the patent, and the fact of infringement.[1]

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[1] Bacon *v.* Jones, 4 M. & Cr. 433. In this case, Lord Cottenham said: — "Generally speaking, a plaintiff, who brings his cause to a hearing, is expected to bring it on in such a state, as will enable the Court to adjudicate upon it, and not in a state, in which the only course open is, to suspend any adjudication, until the party has had an opportunity of establishing his title, by proceedings before another tribunal. And, I think the court would take a very improper course, if it were to listen to a plaintiff who comes forward at the hearing, and asks to have his title put in a train for investigation, without stating any satisfactory reason, why he did not make the application at an earlier stage. When he comes forward, upon an interlocutory motion, the Court puts the parties in the way of having their legal title investigated and ascertained; but, when a plaintiff has neglected to avail himself of the opportunity thus afforded, it becomes a mere question of discretion, how far the Court will assist him at the hearing, or, whether it will then assist him at all.

If, indeed, any circumstances had occurred, to deprive him of that opportunity, in the progress of the cause, the question might have been different. But, in this case, I have not heard any reason suggested, why the plain

§ 337. The next question is, supposing that an injunction is not to be granted *simpliciter*, what course is to be taken? This part of the subject embraces the cases, where the plaintiff will be sent to try his title at law, without an injunction; and the cases where an injunction will be granted, but the

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and ordinary course was not taken, by the plaintiffs, of previously establishing their right at law. They might have brought their action, before filing the bill, or they might, after the bill was on the file, have had their right put in train for a trial. Instead of that, they have allowed the suit to remain perfectly useless to them, for the last four years. They knew of the alleged infringement, in the month of August, 1835; and, from that time till the hearing, there was no moment at which they might not, by applying to the Court, have had liberty to bring an action, to establish their title at law.

It is obvious, that such a line of proceeding exposes a defendant to inconveniences, which are, by no means, necessary for the protection of the plaintiff. It is no trifling grievance, to have a chancery suit hanging over him for four years, in which, if the Court shall so determine at the hearing, he will have to account for all the profits he has been making, during the intermediate period. Is a defendant to be subject to this annoyance, without any absolute necessity, or even any proportionate advantage to his adversary, and without that adversary being able to show any reason, why he did not apply at an earlier time? It appears to me, that it would be very injurious to sanction such a practice, more especially, when I can find no case in which the Court has thought it right to retain a bill, simply for the purpose of enabling a plaintiff to do that, which these plaintiffs might have done, at any time within the last four years.

It was much more regular and proper, that the plaintiffs should have taken steps for putting the legal right in a course of trial. Those steps they have not chosen to take, and it is now impossible to put the defendants in the same position in which they would have stood, if such a course had been originally adopted.

For these reasons, I am of opinion, that the Master of the Rolls, finding that the evidence in the cause was not such as he could act upon with safety, came, in the exercise of his discretion, to a sound conclusion, when he refused to grant the injunction, or retain this bill.

I have purposely abstained from saying any thing as to the legal rights of the parties, because I do not think the case in such a state as to enable me to adjudicate upon it.

The appeal must be dismissed, with costs."

plaintiff will be required to establish his patent at law. The plaintiff will be sent to a court of law, to establish the validity of his patent, without a previous injunction, if he does not show long possession and exercise of his exclusive right, where the injunction is resisted by evidence, which casts doubt on the originality of his invention, or on the question of infringement, or where the patent contains gross and obvious defects.[1]

§ 338. With regard to the length of time, during which possession and exercise of the exclusive right must be shown, it does not appear that any specific lapse of time has been adopted as a standard; and, indeed, it is manifest, that no positive rule can be assumed, applicable to all cases. The general principle is, as we have seen, that the time elapsed between the granting of the patent and the application for an injunction, must have been sufficient to have permitted articles or machines to be constructed by the patentee, in conformity with his claim, and to be sold publicly and repeatedly.[2] It must also appear, that the thing has, in fact, been sold publicly, if that is the kind of possession relied on;[3] and, where the proof of possession consists of former recoveries, or licenses granted to parties who have been sued and have submitted, if it appears doubtful whether such recoveries and submissions were not collusively obtained, the necessary kind of possession will not be made out, and the right will

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[1] Hovey *v.* Stevens, 1 Woodb. & M. 290; Ogle *v.* Ege, 4 Wash. 584; Collard *v.* Allison, 4 M. & C. 488; Morgan *v.* Seward, Webs. Pat. Cas. 167. By defects, is to be understood such as raise doubts, as to the merits — that is, the originality or usefulness of the patent, or the patentee's own error, in the specification. Woodworth *v.* Hall, 1 Woodb. & M. 400. As to defects, arising from the acts of public officers, see *post*.

[2] See the observations of the Court, cited *ante*, from Orr *v.* Littlefield, 1 Woodb. & M. 18, 17.

[3] Ibid. Hovey *v.* Stevens, 1 W. & M. 290, 308.

first have to be tried at law.[1] But it does not impair the effect of such recoveries or submissions, that they were obtained by agreement, and without trial, if there was at first a real contest.[2]

§ 339. Where, however, former use or former recoveries are relied upon, as proof of the possession of the exclusive right, they must have been under the same patent, or under a patent connected in law with that under which the application is made; otherwise, it will not appear that they related to the same right.[3] But, under our system of amending specifications, or of surrendering an old patent and taking out a new one, on account of informalities, the right, in contemplation of law, remains the same, after the issue of the new patent, if it is in fact for the same invention; and, consequently, a former possession, under the old patent, will be ground for granting an injunction, without a previous trial, under the amended patent.[4] Usually, where an injunction is not granted, but the plaintiff is required to establish his title

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[1] Collard *v.* Allison, 4 M. & Cr. 487, 488; Kay *v.* Marshall, 1 M. & Cr. 373; Orr *v.* Badger, 10 Law Reporter, 465; Orr *v.* Littlefield, 1 W. & M. 13, 17, 18.

[2] Orr *v.* Littlefield, 1 W. & M. 13, 17, 18; Orr *v.* Badger, 10 Law Rep. 465. In Neilson *v.* Thompson, Webs. Pat. Cas. 275, 276, the plaintiff's solicitor proved the preparation and granting of fifty or sixty licenses, and also various infringements, by parties who submitted and took a license, on proceedings being commenced against them. Sir L. Shadwell, V. C., said, "It seems to me, on these affidavits, that it is sufficiently made out that there has been a use of the patent in this sense, that the right of the patentee to the benefit of the patent has been submitted to, where there has been a contest, and it does not at all appear to me, that the general way in which the defendants, on their affidavit, state the mode by means of which the plaintiffs succeeded in establishing the patent, is at all an answer to the two cases which are stated in Mr. Blunt's affidavit. Then I have the case of a patent having been obtained in the year 1828, and actually enjoyed by the patentee for upwards of twelve years."

[3] Hovey *v.* Stevens, 1 W. & M. 290.

[4] Orr *v.* Badger, 10 Law R. 465.

at law, the defendant will be ordered to keep an account until the question is determined.[1] It seems, that where both parties claim under patents, the Court cannot grant an injunction until the rights have been tried at law.[2]

§ 339 *a*. The cases where an injunction will be granted, but the plaintiff will be required to establish his patent at law, do not admit of any very precise classification under a distinct rule. The Court must exercise its discretion upon the circumstances.[3] If the plaintiff has, by proof of posses-

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[1] See Post, as to the account.

[2] This was held in Baskett *v.* Cunningham, 2 Eden's Ch. R. 137, in relation to two conflicting patents for the printing of Bibles; and it has not been overruled by any subsequent case. Nor can it well be overruled, for, where there are two conflicting patents, apparently for the same thing, the grounds of undisturbed possession, on which injunctions are granted, cannot exist.

[3] In Harmer *v.* Plane, 14 Ves. 130, 131, Lord Eldon thus explained the grounds on which an injunction should be granted, in cases where there is so much doubt as to require further investigation: "The ground upon which, where doubt is excited in the mind of the Court, an injunction is granted, until the legal question can be tried, a ground that was acted upon in the case of Boulton *v.* Watt, (Boulton *v.* Bull, 2 Hen. Black, 453; 3 Ves. 140; Hornblower *v.* Boulton, 8 Term. Rep. 95; Hill *v.* Thompson, 3 Mer. 622,) in some cases preceding that, and some that have occurred since, is this: where the crown, on behalf of the public, grants letters-patent, the grantee entering into a contract with the crown, the benefit of which contract the public are to have, and the public have permitted a reasonably long and undisputed possession, under color of the patent, the Court has thought, upon the fact of that possession, proved against the public, that there is less inconvenience in granting the injunction, until the legal question can be tried, than in dissolving it at the hazard, that the grant of the crown may, in the result, prove to have been valid. The question is not really between the parties on the record; for, unless the injunction is granted, any person might violate the patent; and the consequence would be, that the patentee must be ruined by litigation. In the case of Boulton and Watt, therefore, though a case of great doubt, upon which some of the ablest judges in Westminster Hall disagreed, yet, upon the ground of the possession by the patentees against all mankind, the injunction was granted, until the question could be tried; and the result of the trial, being in favor of the patent, proved that the conduct of the Court in that instance was, at least, fortunate.

sion and enjoyment, made out a *primâ facie* case for an injunction, it will then be for the Court to consider, whether the nature of the case entitles the defendant to a farther investigation into the validity of the patent, or into the fact of infringement. The defendant will have a right to farther investigation, if he shows that there are any questions of fact or of law, which a court of equity does not ordinarily undertake to settle; and this investigation will generally be ordered to take place in an action at law, although it is competent for the Court to direct an issue out of chancery.[1]

The first of these patents, granted in the 27th year of his present majesty, is expired; and the patent for the improvements was granted in the 34th Geo. III. The agreement, entered into by this defendant, for a license to work under the patentee, would not bind the defendant. If the plaintiff could not legally grant that license, there was no consideration; and the question between them, therefore, is entirely open. Still, however, the patentee has had possession against all the world; and, if he can maintain its validity by a due performance of the condition as to enrolment of the specification, by dissolving the injunction in the mean time, I should act both against principle and practice; not only enabling this defendant against law to exercise a right in opposition to the patent, but also encouraging all mankind to take the same liberty."

[1] Harmer *v.* Plane, 14 Ves. 130, 131; Hill *v.* Thompson, 3 Meriv. 622, 630; Wilson *v.* Tindal, Webs. Pat. Cas. 730, note. In this case, Lord Langdale, M. R., said: "Having regard to the arguments on the validity of the patent, to the enjoyment of it by the plaintiffs, and to the evidence which appears upon the affidavits which have been made in this case, I am of opinion that the injunction which is applied for ought to be granted.

The question for consideration is, whether any terms ought to be imposed upon the plaintiffs, or whether any other mode of investigating the facts than that which is adopted in the usual course of proceeding in this court ought to be adopted. It is to be observed, that all orders made on applications of this kind, are merely interlocutory orders; they do not bind the right between the parties. The injunction, which I have stated it to be my intention to grant, will be an injunction only until further order. It will not be a perpetual injunction; not an injunction to continue during the continuance of the patent. Notwithstanding this order, the defendant may put in his answer, he may displace all the affidavits which have been filed on both sides. The plaintiff and the defendant may respectively proceed to evidence, they may bring their cause on for a hearing, and, upon the hearing of the

§ 340. A denial in the answer, as to the validity of the patent, or the fact of infringement, will be sufficient to entitle the defendant to further investigation in an action at law; but it has been held that, under our system, if the defendant

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cause, the whole case, the law regarding the patent, and the facts which will appear upon the depositions, will have to be reconsidered, and that reconsideration may, for any thing that can be known to the contrary, justly end in a result different from that which I have come to upon the present occasion.

The defendant, having his option to adopt this course of proceeding, has, at the bar, expressed his desire to have this matter tried at law. If he was left merely to prosecute a *scire facias* for the repeal of the patent, that would be one part of the question which he might in that way try. But there are other questions subsisting between the parties, regarding matters of fact, which could not be tried in that way.

Now, it has been stated, by Lord Cottenham, that he recollected no instance in which the Court has not adopted the course of directing the trial of an action; he has stated that to be the result of his experience. I certainly am very reluctant to try my own memory against that, but I should have supposed that there were instances in which that had been done. It is not the right of parties, in every case, to have an action tried in a court of law; it is a question of convenience, and the Court is to exercise a fair discretion. I have no doubt, whatever, of the competency of this Court to grant an injunction *simpliciter*. Neither had Lord Cottenham any doubt of it. But the question is, whether, when there is an opportunity for carrying the matter further, it is not, on the whole, a convenient course of proceeding, to have it tried before the tribunal which is most proper for the consideration of the legal question, and by which the facts can be better investigated than they can here. It is not, therefore, upon the ground of any doubt, as to the validity of the patent, that I make the order which I am about to make, but it is because the nature of the case entitles the defendant to a further investigation, in one form or other, and the most convenient and most effective mode appears to me to be that which has been mentioned, namely, by bringing an action in a court of law. Notwithstanding, therefore, the very forcible arguments I have heard upon this subject, I think I must, in this case, as has been done in so many other cases, direct the plaintiff to bring an action to try this right, the injunction being granted in the terms of the notice of motion."

In Russell *v.* Barnsley, Webs. Pat. Cas. 472, Sir L. Shadwell, V. C., said, that he did not recollect a case where a defendant had stated his wish to try the question at law, that the Court had refused to give him the opportunity.

wishes to try the question of originality in an issue out of chancery, he must set out in his answer the names of places and persons, where, and by whom the invention had previously been used, because the Act of Congress peremptorily requires notice of these facts, in a trial of this question at law.[1]

§ 341. The fact of the pendency of an action against another party, has been held not to be a sufficient ground for continuing an injunction, where the novelty of the invention was denied in the answer, without putting the plaintiff to bring an action against the new defendant.[2]

§ 342. The practice of the Court in dissolving, reviving, continuing, or making final injunctions, previously granted, is regulated, in general, by the same rules as the practice of granting them in the first instance. A motion to dissolve an injunction may be made at any time. If made after a trial has been ordered at law, or while an action at law is pending, or while the plaintiff is preparing to bring an action, the decision of the Court will be made upon the same principles which governed the granting of the injunction in the first instance; that is to say, the defendant will not succeed in displacing the plaintiff's *primâ facie* right to an injunction, merely by filing an answer, or reading affidavits casting doubts on the validity of the patent, provided the plaintiff is guilty of no unreasonable delay in bringing on the trial; especially, if the plaintiff adduces auxiliary evidence in favor of his right.[3]

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[1] Orr *v.* Merrill, 1 Woodb. & M. 376, 378. *Quære*, whether it would not be a sufficient compliance with the statute, if the Court, in directing an issue, were to order the defendant to file a notice of the persons and places, before the issue is tried, without its being contained in the bill.

[2] Russell *v.* Barnsley, Webs. Pat. Cas. 472.

[3] Orr *v.* Merrill, 1 W. & M. 376; Orr *v.* Littlefield, Ib. 13; Orr *v.* Badger, 10 Law Rep. 465. In such cases, the injunction should be continued to the next term after that at which the suit at law might be tried, to test the title. Orr *v.* Merrill.

§ 343. Where the motion to dissolve is made, after a trial at law has been had, the Court will have to look at the result of that trial, and will be governed by the position in which the plaintiff's right has been left. If the proceedings at law are not in a state to be regarded as final, the Court will choose to be informed as to the further questions which remain to be investigated. If a verdict has been rendered for the plaintiff, but a new trial has been, or is to be moved for, and if the Court can see that there is a question on which an argument might be addressed to the court of law, which might induce it to grant a new trial, the injunction will not be continued, as a matter of course, but the Court will endeavor to leave the parties in a situation that will produce, on the whole, the least inconvenience, having regard to all the circumstances of their respective situations.[1]

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[1] Hill *v.* Thompson, 3 Meriv. 622, 628. In this case, the injunction had been dissolved, a trial at law had resulted in a verdict for the plaintiff, who came before the Court with a motion to *revive* the injunction. On the part of the defendants, it was stated to be their intention to move for a new trial at law, at the next term, which was as soon as the motion could be made. Lord Eldon said: "In this case, the injunction was first granted upon the strength of the affidavits, which were contradicted, as to their general effect, in the most material points, when it afterwards came before the Court upon a motion to dissolve the injunction so obtained. Many topics were then urged on both sides, and fully discussed in argument. It was insisted, on the part of the plaintiff, and the Court agreed to that position, that, where a person has obtained a patent, and had an exclusive enjoyment under it, the Court will give so much credit to his apparent right, as to interpose immediately, by injunction, to restrain the invasion of it, and continue that interposition until the apparent right has been displaced. On the other hand, it was, with equal truth, stated, that, if a person takes out a patent, as for an invention, and is unable to support it, except upon the ground of some alleged improvement in the mode of applying that which was previously in use, and it so becomes a serious question, both in point of law and of fact, whether the patent is not altogether invalid, then, upon an application to this Court, for what may be called the extra relief which it affords, on a clear *primâ facie* case, the Court will use its discretion; and, if it sees sufficient ground of doubt, will either dissolve the injunction absolutely, or direct an issue, or direct the party applying to bring his action, after the trial of which,

§ 344. Sometimes, the Court will direct a motion for an injunction to stand over, when none has been granted, until

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either he may apply to revive, if successful, or else the other party may come before the Court, and say, I have displaced all his pretensions, and am entitled to have my costs and the expenses I have sustained, by being brought here upon an allegation of right which cannot be supported. And as, in this instance, the Court will sometimes add to its more general directions, that the party against whom the application is made, shall keep an account, pending the discontinuance of the injunction, in order that, if it shall finally turn out that the plaintiff has a right to the protection he seeks, amends may be made for the injury occasioned by the resistance to his just demands. In his directions to the jury, the judge has stated it, as the law on the subject of patents — first, that the invention must be novel; secondly, that it must be useful; and thirdly, that the specification must be intelligible. I will go further, and say, that, not only must the invention be novel and useful, and the specification intelligible, but also that the specification must not attempt to cover more than that, which, being both matter of actual discovery, and of useful discovery, is the only proper subject for the protection of a patent. And I am compelled to add, that, if a patentee seeks, by specification, any more than he is strictly entitled to, his patent is thereby rendered ineffectual, even to the extent to which he would be otherwise fairly entitled. On the other hand, there may be a valid patent, for a new combination of materials, previously in use, for the same purpose, or for a new method of applying such materials. But, in order to its being effectual, the specification must clearly express, that it is in respect of such new combination or application, and of that only, and not lay claim to the merit of original invention in the use of materials. If there be a patent both for a machine and for an improvement in the use of it, and it cannot be supported for the machine, although it might for the improvement merely, it is good for nothing altogether, on account of its attempting to cover too much. Now, it is contended, that what is claimed by the present patent is not a novel invention; that the extraction of iron from slags or cinders, was previously known and practised: that the use of lime in obstructing 'cold short' was likewise known. But, to all this it is answered, that the patent is not for the invention of these things, but for such an application of them as is described in the specification. Now, the utility of the discovery, the intelligibility of the description, &c., are all of them matters of fact proper for a jury. But, whether or not the patent is defective, in attempting to cover too much, is a question of law, and, as such, to be considered in all ways that it is convenient for the purposes of justice that it should be considered. The specification, generally, describes the patent to be 'for improvements in the smelting and working of

it can be ascertained what the result of an application for a new trial is to be; and where a rule, to show cause why a new trial should not be had, had been granted, an injunction was refused, it not having been allowed before.[1]

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iron;' and it then goes on to describe the particulars in which the alleged improvements consist, describing various proportions in the combination of materials, and various processes in the adhibition of them. The question of law, upon the whole matter, is, whether this is a specification by which the patentee claims the benefit of the actual discovery of lime as a preventive of 'cold short,' or, whether he claims no more than the invention of that precise combination and those peculiar processes which are described in the specification. And, when I see that this question clearly arises, the only other question which remains is, whether I can be so well satisfied with respect to it as to take it for granted, that no argument can prevail upon a court of law, to let that first question be reconsidered by granting the motion for a new trial. If this be a question of law, I can have no right whatever to take its decision out of the jurisdiction of a court of law, unless I am convinced that a court of law must, and will, consider the verdict of the jury as final and conclusive. But this only brings it back to the original question; and I see enough of difficulty and uncertainty in the specification, and enough of apparent repugnance between the specification and the patent itself, to say that it is impossible I can arrive at such a conclusion respecting it, as to be satisfied that there is no ground for granting a new trial. In the order I formerly pronounced was contained a direction, that the defendant should keep an account of iron produced by their working, in the manner described in the injunction. If the injunction is to be now revived, the whole of their establishment must be discharged between this and the fourth day of next term, when it is intended to move for a new trial, the result of which may be, that the defendants have a right to continue the works; to do which, they will then be under the necessity of recommencing all their operations, and making all their preparations and arrangements *de novo*. It appears to me that this would be a much greater inconvenience than any that can result from my refusal, in the present instance, to revive the injunction. My opinion, therefore, is, that this matter must stand over till the fifth day of next term, when I may be informed of the result of the intended application for a new trial; the account to be taken, in the meantime, as before."

[1] There is a recent case, where an injunction was applied for and refused, and the plaintiff was directed to bring an action, which was tried and a verdict found for the plaintiff. The motion for the injunction was then renewed; but it appeared on affidavit, that a bill of exceptions had been tendered, and that the defendants also intended to move for a new trial. The Lord Chan-

§ 345. This course of proceeding shows that, when a new trial has been, or is intended to be, applied for, a court of equity will generally leave the parties in the situation in which they stood before the trial. If no injunction had been previously granted, the Court will not increase the defendant's burdens by imposing one, as long as the plaintiff's right remains doubtful at law. But if an injunction has been granted, and the plaintiff has succeeded at law, it would seem that the injunction ought not to be dissolved, on the mere suggestion that there is ground for a new trial, unless the Court sees what Lord Eldon called "sufficient ground of doubt" of the plaintiff's right; but that the Court will exercise its discretion, and, if it sees reason for dissolving the injunction, it will direct the defendant to keep an account pending the discontinuance of the injunction, in order that, if it finally turns out that the plaintiff has a valid patent, he may receive amends for the injury occasioned by the resistance to his just demands.[1] After a trial and judgment at law, in favor of the plaintiff, the injunction will be revived or granted as matter of course.[2] How far the Court will undertake to look into the regularity of such a judgment, and to determine, on the suggestion of the defendant, whether there is probable ground for a writ of error, and therefore to suspend the injunction, is a question which has not arisen in this country; but it seems that, in England, the Lord Chancellor has so far entertained

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cellor directed the application to stand over until the result of these proceedings should be known. Shortly afterwards, a rule *nisi*, for a new trial, was obtained, and then the motion for the injunction was brought on again. The Lord Chancellor said, that, under the circumstances in which the case stood at law, a rule to show cause why a new trial should not be had, having been granted — he must consider the legal title of the parties as still undecided; and he therefore refused the application. Collard *v.* Allison, 4 M. & Cr. 487, 490.

[1] See the observations cited *ante*, from Hill *v.* Thompson. See further, as to ordering an account, *post*.

[2] Neilson *v.* Harford, (Cor. Lord Lyndhurst in 1841,) Webs. Pat. Cas. 373.

an application of this kind, as to look into the proceedings at law and the grounds of the judgment, and to satisfy himself that no good reason existed for departing from the usual course of reviving the injunction after a judgment in favor of the plaintiff.[1]

§ 346. An important part of the remedial process in equity is the account of profits made by the defendant. Sometimes an account is ordered to be kept, in lieu of granting or continuing an injunction, and it is always ordered when the injunction is made perpetual, unless the amount would be very small. The cases in which an account is ordered to be kept, either with or without an injunction, during the pendency of an action in which the right is to be tried, proceeded upon the principle that the plaintiff may turn out to be entitled to the right, and he is more secure of ample justice if the account of the defendant's profits be kept while he is using the invention, than if it were deferred to be taken at a future time, especially if the defendant is left at liberty to make new contracts.[2] Such an account will be ordered, if the injunction is dissolved by reason of the irreparable injury it would do to the defendant's business.[3]

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[1] Ibid.

[2] Hill *v.* Thompson, 8 Meriv. 626, 631; Crossley *v.* Derby Gas Light Company, Webs. Pat. Cas. 119; Neilson *v.* Fothergill, Ibid. 290; Morgan *v.* Seaward, Ibid. 168; Bacon *v.* Jones, 4 M. & Cr. 436.

[3] Neilson *v.* Thompson, Webs. Pat. Cas. 278, 285. In this case Lord Cottenham said: "Nothing that took place could preclude the defendants from the right of disputing the plaintiff's right as a patentee, but they have, at very considerable expense, erected this machinery, and from that time to the present have been using it, the plaintiff being aware of it, at least from some time in 1839, (the precise day is not stated) and stood by and permitted them to do this. If he is entitled as patentee, it would be extremely hard for the Court to do any thing to prevent his receiving that which he is entitled to receive, and in expectation of which he permitted the defendants to go on with their work. But, on the other hand, it would be extremely hard indeed, to tell the defendants that they shall not use the works, which, with the plaintiff's knowledge, they have prepared at a very considerable expense;

§ 347. Sometimes, as a further means of doing justice between the parties, upon the question of infringement, when an action at law is to be tried, the Court will order a mutual inspection of the plaintiff's and defendant's works. The object in so doing is to enable the parties, on the trial, to give such evidence as will tend to prove or disprove the fact of infringe-

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and as to telling them they may go on with the cold blast instead of the hot blast, I am told that the difference between the use of the one and the other is an expense of nearly double, even if it were possible; at all events, they may sustain that loss, in the interval, until the right is tried. It seems to me that stopping the works, by injunction, under these circumstances, is just inverting the purpose for which an injunction is used. An injunction is used for the purpose of preventing mischief; this would be using the injunction for the purpose of creating mischief, because the plaintiff cannot possibly be injured. All that he asks, all that he demands, all that he ever expects from these defendants, is one shilling per ton. He has not a right to say to them, you shall not use this apparatus; he cannot do so after the course of conduct he has adopted; he may, no doubt, say, with success, if he is right, you shall pay me that rent which the others pay, and in the expectation of which I permitted you to erect this machinery. Therefore, in no possible way can the plaintiff be prejudiced; but the prejudice to the defendants must be very great indeed, if they are, for a short period, prevented from using, at their furnaces, that apparatus which, with the consent of the plaintiff, they have erected. The object, therefore, is, pending the question, which I do not mean to prejudice one way or the other by any thing I now say, to preserve to the parties the opportunity of trying the question, with the least possible injury to the one party or the other; and I think the injunction would be extremely prejudicial to the defendants, and do no possible good to the plaintiff, for the purpose for which it may be used. It may, by operating as a pressure upon the defendants, produce a benefit, but that is not the object of the Court; the object of the Court is to preserve to each party the benefit he is entitled to, until the question of right is tried; and that may be entirely secured by the defendants undertaking to keep an account, not only for the time to come, but from the time when the connection first commenced, and undertaking to deal with that account in such a way as the Court may direct; and if the plaintiff is entitled, the Court will have an opportunity of putting the plaintiff precisely in the situation in which he would have stood if the question had not arisen. If it shall turn out that the patent is not valid, the Court will deal with it accordingly, and that will, I think, most effectually prevent all prejudice."

ment. For this purpose, inspectors or viewers are appointed, under the direction of the Court, who are to be admitted as witnesses on the trial at law. If the parties do not agree on the persons to be appointed, the Court will appoint them.[1]

§ 348. When the validity of the patent is fully established, an account will be ordered of all the profits made by the defendant, to be taken by a master; and, if the patent has expired, the account and the injunction will extend to all the articles piratically made during the existence of the patent, though some of them may remain unsold.[2]

§ 349. An injunction should not be dissolved merely on account of doubts as to the validity of the patent, which arise from objections to the technical form or signature of the letters, or other acts or omissions of the public officers, and not from any neglect or wrong of the patentee.[3]

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[1] Morgan *v.* Seaward, Webs. Pat. Cas. 168; Russell *v.* Cowley, Ibid. 457. See these cases, for the decrees appointing such inspectors.

[2] Crossley *v.* Beverley, Webs. Pat. Cas. 119; Crossley *v.* Derby Gas Light Company, Ibid. 119, 120. In this case a very curious difficulty occurred in estimating the "profits." The plaintiff was the owner of a patent for making gas-meters, which the defendants had made, and sold and employed in their works. The profits to be ascertained were the benefits derived from the use of the meters, in enabling the defendants to furnish gas to their customers at a lower rate than they could have done without them, and so to obtain additional profits from an increased consumption. It was a case, therefore, presenting the uncertain elements of profits made by the application of particular means, and a just distribution of those profits to a particular agent employed. The case does not furnish any principles, as it is reported. See 3 Mylne & Cr. 428, 430.

[3] Woodworth *v.* Hall, 1 Woodb. & M. 389, 400. In this case, Mr. Justice Woodbury said: "Finally, it is contended that, if any doubt exists as to the validity of a patent, as some assuredly does here, as before stated, the injunction should be dissolved. This may, with some qualification as to the matters connected with the subject, be true in granting an injunction, as laid down in 4 Wash. C. C. 584, if the doubt relate to the merits — that is, the originality or usefulness of a patent, or a patentee's own error in his speci-

350. Upon the question of granting an injunction against a party who has had the use of the invention by permission or grant of the patentee, the doctrine seems to be this. A party who has had such use of an invention, under a contract for an annual rent, or other estimated rate of payment, may discontinue the payment, and, if he still use the invention, the patentee may sue him for the rent due, or for an infringement. If an action is brought for the rent, and the defendant is not estopped by the terms of his contract from denying the validity of his patent, the plaintiff cannot recover without giving him an opportunity to do so.[1] The same is true under an action for the infringement, if the defendant is not estopped.[2] Where, therefore, a court of equity does not see that the defendant is estopped from denying the validity of the patent, but that he has a right to resist the patent, it will deal with a defendant who has used under a license or

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fication. But, when the objection relates to the technical form or signature of papers connected with the letters, and the doubts arise from acts of public officers, and not any neglect or wrong of the patentee, the position seems to me not sound. More especially should an injunction, once granted, not be disturbed for such doubts, when, as in this case, the term for trial of the merits is near; and the allowing such doubts to prevail, even to the extent of dissolving an injunction, might not merely affect the present patent and present parties, but operate injuriously on all other patents and parties where, for the last ten years, by a contemporaneous and continued construction of the Patent Law, chief clerks have, under its authority, signed patents or other important papers as acting commissioner, in the necessary absence of the commissioner, or made mistakes of a clerical character in the form of the letters. In my opinion, so far from its being proper, under such circumstances, to dissolve an injunction for doubts on such technical objections, it is rather the duty of the Court, if, as here, mischievous consequences are likely to ensue to others from interfering, and if, as here, legislative measures have been recommended by the public officers, which are pending, to remedy or obviate the possible evil from any public mistakes, not to dissolve an injunction already granted, unless required to do it by imperative principles of law, showing the letters-patent to be clearly void."

[1] Hayne *v.* Maltby, 3 T. R. 438.

[2] As to estoppel and failure of consideration, see Bowman *v.* Taylor, 2 Ad. & E. 278, and other cases collected in Webs. Pat. Cas. 290, note.

other contract, or under permission, upon the question of injunction, as it deals with other defendants; and, as we have seen, if the bill which prays for an injunction, also shows that rent is due by contract, the Court will order the money to be paid into court, to await the result of an action at law.[1]

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[1] Neilson *v.* Fothergill, Webs. Pat. Cas. 287, 288. The bill showed that the plaintiffs had called on the defendants for an account of the iron smelted by the use of the invention, in order to ascertain the sum due, and that the defendants had rendered an account, in writing, of all the iron smelted by them up to the 2d of August, 1839, and duly paid one shilling per ton on the same; that the plaintiff had applied to the defendants for an account of the iron smelted since the 2d day of August, 1839, and for like payments, but the defendants had refused. It appeared that the draft of a license was sent to the defendants, containing, amongst others, a clause for revoking the license upon the non-payment of the rent, *and that this license was kept;* that the payments were made in conformity to it, and that the plaintiffs, after August, 1839, *revoked the license.* An injunction had been granted, which the defendants now moved to discharge. Lord Cottenham, L. C.—"This case is deprived of those circumstances upon which I acted in the other, namely, the party who claims to be patentee, permitting them to incur expense, in the expectation of being permitted to use the furnaces upon the payment of the rent, which is all the plaintiff requires. But here, all that is accounted for, because that was done under a contract, and for two years at least the party has had the benefit of the works which he has so erected, and the patentee has kept his contracts with the defendant; he has not interposed and endeavored to deprive them of the benefit of their expenditure. It is the act of the manufacturer which has put an end to this connection; he has, therefore, exposed himself to any degree of injury that may arise from the expenditure upon these works, and it appears that there is no answer to the claim to this rent from August, 1839, to August, 1840. I shall have to consider, if your client declines to escape from the injunction upon the terms I propose to him, whether the injunction should not go in a case which is deprived of those equitable circumstances which induced me to dissolve it in the others. (Wigram: Your lordship will give me the benefit of the supposition, that, at law, I have a defence if the patent is good for nothing.) If you can show me that there is a real question to try, the money must be paid into court instead of being paid to the parties; but, at all events, I do not see how far that year, from August, 1839, to August, 1840, when you went on under the contract without giving notice to determine, you can

§ 351. It has been held, that, in a bill in equity, for a perpetual injunction, it is a good defence, that, prior to the

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escape paying it, either into Court, to abide the event of the trial of the question at law, or paying it to the party, if there is no question to try.

Wigram, in reply. Your lordship said you should consider, whether, since August, 1840, we were to be considered as holding adversely, and, therefore, whether liable or not to pay for what was gone by, we were at all events wrongdoers. And then you put me to show, whether I could not in law defend myself for what was said to be due in August, 1840. The principle which I have always understood to govern cases of this sort is this, that, excluding the law of estoppel, if you go into a Court of law, and can show a total failure of consideration for the contract, there you may always defend yourself; if, on the other hand, you cannot make out a case of total failure of consideration, you are liable upon your contract, and you may or may not have your cross action. This is the general principle in these cases, subject to the question, whether that which has been done may or may not amount to an estoppel. The whole question in the case of Bowman *v.* Taylor, relied upon for the plaintiff, was, whether or not there could be an estoppel by recital, and it was held that there could. In Hayne *v.* Maltby, the question was, whether there was any estoppel, there being no recital of the plaintiff's title, but only an agreement and a covenant to pay, and the Court held that there was not. In that case, Mr. Justice Ashhurst said, the plaintiffs use this patent as a fraud on all mankind, and they state it to be an invention of the patentee, when in truth it was no invention of his. The only right conferred on the defendant by the agreement, was that of using this machine, which was no more than that which he in common with every other subject has, without any grant from the plaintiff. That is exactly our case. We say that all mankind have a right to use it, but that some people have taken licenses, supposing it to be the plaintiff's invention. On the money then being paid into Court, the injunction should be dissolved.

Lord Cottenham, L. C.: — The case of Hayne *v.* Maltby appears to me to come to this — that, although a party has dealt with the patentee and has carried on business, yet that he may stop, and then the party who claims to be patentee cannot recover without giving the other party the opportunity of disputing his right, and that, if the defendant successfully dispute his right, that, notwithstanding he has been dealing under a contract, it is competent to the defendant so to do. That is exactly coming to the point which I put, whether, at law, the party was estopped from disputing the patentee's right, after having once dealt with him as the proprietor of that right; and it appears from the authority of that case, and from the other cases, that, from the time of the last payment, if the manufacturer can successfully resist the pa-

granting of the patent, the inventor had allowed the invention to go into public use, without objection; but that it should be clearly established by proof, that such public use was with the knowledge and consent of the inventor.[1] This is the same as one of the statute defences against an action at law, which may all be made, pursuant to the statute, in equity, if the defendant chooses, although the statute has expressly made them defences only in an action at law.

§ 352. If the patentee, after obtaining his patent, dedicates or surrenders it to public use, or acquiesces, for a long period, in the public use of his invention, without objection, he is not entitled to the aid of a Court of Equity to protect it; and such acquiescence may amount to complete proof of a dedication or surrender to the public. The ground upon which a Court of Equity refuses to interfere, in such cases, is, that, by his own conduct, the plaintiff may have led or encouraged the defendant to make use of his invention.[2]

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tent-right of the party claiming the rent, that he may do so in answer to an action for the rent for the use of the patent during that year. That being so, I think that, upon the money being paid into Court, that is to say, upon the amount of the rent for that year being paid into Court, (if required,) and the same undertaking being given to account for the subsequent period, the same order ought to be made in this case as in the others. There must be an undertaking to deal with the amount of that in the same way as before. The great difficulty in this case, which, however, is surmounted in the undertaking, is, that the said suit does not go to that year's rent."

[1] Wyeth *v.* Stone, 1 Story's R. 273.

[2] Ibid. In this case, Mr. Justice Story said: — "In the next place, as to Wyeth's supposed abandonment of his invention to the public, since he obtained his patent, I agree, that it is quite competent for a patentee, at any time, by overt acts or by express dedication, to abandon or surrender to the public, for their use, all the rights secured by his patent, if such is his pleasure, clearly and deliberately expressed. So, if, for a series of years, the patentee acquiesces, without objection, in the known public use, by others, of his invention, or stands by and encourages such use, such conduct will afford a very strong presumption of such an actual abandonment or

§ 353. But, although it is a principle of equity, that a patentee must not lie by, and, by his silence or acquiescence,

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surrender. *A fortiori*, the doctrine will apply to a case where the patentee has openly encouraged, or silently acquiesced in such use, by the very defendants, whom he afterwards seeks to prohibit, by injunction, from any further use; for, in this way, he may not only mislead them into expenses, or acts, or contracts, against which they might otherwise have guarded themselves; but his conduct operates as a surprise, if not as a fraud, upon them. At all events, if such a defence were not a complete defence at law, in a suit for any infringement of the patent, it would certainly furnish a clear and satisfactory ground why a Court of Equity should not interfere, either to grant an injunction, or to protect the patentee, or to give any other relief. This doctrine is fully recognized in Rundell *v.* Murray, (Jacobs's R. 311, 316,) and Saunders *v.* Smith, (3 Mylne & Craig, 711, 728, 730, 735.) But, if there were no authority on the point, I should not have the slightest difficulty in asserting the doctrine, as founded in the very nature and character of the jurisdiction exercised by Courts of Equity, on this and other analogous subjects.

There is, certainly, very strong evidence in the present case, affirmative of such an abandonment or surrender, or, at least, of a deliberate acquiescence, by the patentee, in the public use of his invention, by some or all of the defendants, without objection, for several years. The patent was obtained in 1829; and no objection was made, and no suit was brought against the defendants for any infringement, until 1839, although their use of the invention was, during a very considerable portion of the intermediate period, notorious and constant, and brought home directly to the knowledge of the patentee. Upon this point, I need hardly do more than refer to the testimony of Stedman and Barker, who assert such knowledge and acquiescence for a long period, on the part of the patentee, in the use of these ice-cutters by different persons, (and, among others, by the defendants,) on Fresh Pond, where the patentee himself cut his own ice. It is no just answer to the facts, so stated, that, until 1839, the business of Wyeth, or, rather, of his assignee, the plaintiff, Tudor, was altogether limited to shipments in the foreign ice trade, and that the defendant's business, being confined to the domestic ice trade, did not interfere, practically, with his interest under the patent. The violation of the patent was the same, and the acquiescence the same, when the ice was cut by Wyeth's invention, whether the ice was afterwards sold abroad or sold at home. Nor does it appear that the defendants have as yet engaged at all in the foreign ice trade. It is the acquiescence in the known user by the public, without objection or qualification, and not the extent of the actual user, which constitutes the ground,

induce another to go on expending his money and incurring risk, and afterwards, if profit is made, come and claim a share in the profit, without having been exposed to share in the losses; yet delay to institute his proceedings may be explained, by the difficulty of getting evidence of the infringement.[1]

§ 354. It has already been stated, that, in all cases of proceedings in equity, to restrain the infringement of patents, in the courts of the United States, the injunction can, at no time, be applied for, without notice to the adverse party, giving him an opportunity to oppose it; and, therefore, the

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upon which Courts of Equity refuse an injunction, in cases of this sort. The acquiescence in the public use, for the domestic trade, of the plaintiff's invention for cutting ice, admits, that the plaintiff no longer claims or insists upon an exclusive right in the domestic trade, under the patent; and then he has no right to ask a Court of Equity to restrain the public from extending the use to foreign trade, or for foreign purposes. If he means to surrender his exclusive right in a qualified manner, or for a qualified trade, he should, at the very time, give public notice of the nature and extent of his allowance to the public use, so that all persons may be put upon their guard, and not expose themselves to losses or perils, which they have no means of knowing or averting, during his general silence and acquiescence.

The cases which have been already cited, fully establish the doctrine, that Courts of Equity constantly refuse injunctions, even where the legal right and title of the party are acknowledged, when his own conduct has led to the very act or application of the defendants, of which he complains, and for which he seeks redress. And this doctrine is applied, not only to the case of the particular conduct of the party towards the persons with whom the controversy now exists, but also to cases where his conduct with others may influence the Court, in the exercise of its equitable jurisdiction. (Rundell *v.* Murray, Jacobs's R. 311, 316; Saunders *v.* Smith, 3 Mylne & Craig, 711, 728, 730, 735.) Under such circumstances, the Court will leave the party to assert his rights, and to get what redress he may at law, without giving him any extraordinary aid or assistance of its own."

[1] Crossley *v.* Derby Gas Light Co. Webs. Pat. Cas. 119, 120. As to what would be reasonable time, in certain circumstances, see Losh *v.* Hague, Webs. Pat. Cas. 200, 201.

injunction is always *special*.[1] Where the injunction is applied for before an answer has been filed, the plaintiff, in addition to the allegations in his bill, must read affidavits, to show his title and the fact of infringement, especially if the defendant appears, and offers evidence against the one or the other; and these affidavits should, in strictness, cover the issuing of the patent, the novelty of the invention, and all other facts necessary to the title.[2] It is believed, however, that, in our practice, where the whole title is set out in the bill, which is sworn to, if the defendant does not read affidavits denying the title, it is not usual to read them in support of the title, which is considered as verified by the bill itself. But, if the defendant attacks the title by affidavit, it must be supported by auxiliary proof, in addition to the bill, in order to make out the *primâ facie* right to an injunction.

§ 355. In one of the Circuit Courts of the United States, some doubt has been thrown over the question, whether the plaintiff is at liberty to read affidavits, in support of his title, after an answer denying it. Mr. Justice McLean has held, that, on an application for an injunction, after an answer, the plaintiff is not entitled to read affidavits, to contradict the answer, upon the point of title.[3] Mr. Justice Woodbury, on the contrary, has held, that the plaintiff may show, from counter-evidence, that the case is different from that disclosed in the affidavits, or answer of the defendant, and thus proceed to fortify his right to an injunction.[4] I am inclined, after some examination of the point, to think that the latter is the more correct opinion.[5] It is settled in this circuit, by

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[1] For the distinction between *common* and *special* injunctions, see 2 Story's Eq. Jurisp. § 892.

[2] Daniel's Ch. Pr. 1890, 1891, Amer. edit. 1846; Hindmarch on Patents, 332, and cases cited.

[3] Brooks *v.* Bicknell, 3 McLean, 250, 255.

[4] Orr *v.* Littlefield, 1 W. & M. 13, 19. See the observations cited from this case, *ante*.

[5] If Mr. Justice McLean is to be understood to mean, that the plaintiff is

a decision referred to in the note below, by Mr. Justice Story, that the whole question, of granting or dissolving injunctions,

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not at liberty to read affidavits, in support of the novelty of his invention, after an answer denying it, it would seem, that the practice and other authorities are opposed to his position. In the case above cited, (Brooks *v.* Bicknell,) the principal ground of objection to the plaintiff's title was, that the patent had been illegally extended; and the opinion does not expressly affirm that the plaintiff may not adduce evidence against the answer, to support the novelty of his invention, although this is implied in the observations of the Court. It is, however, clear that there is a distinction between common and special injunctions on this point. In Hill *v.* Thompson, 3 Meriv. 622, 624, the leading case on the subject of injunctions in patent causes, where Lord Eldon laid down the rules that have since been followed by all judges, an injunction had been obtained until answer, or further order; on the coming in of the answer, the defendants moved to dissolve. The report does not expressly state that the answer denied the validity of the patent; but, as this was the only question discussed, it is obvious that the answer must have contained such a denial; and it appears that a variety of affidavits were produced on both sides, tending, respectively, to impeach, and to assert the validity of the patent, and of the injunction to restrain the breach of it; and amongst them was an affidavit, by the plaintiff, on the point of novelty. The same reasons, for allowing affidavits of title to be read, on a motion for dissolving an injunction, apply to motions for granting it, in the first instance, where the answer has been filed. Now, upon the practice of reading such affidavits, on a motion to dissolve, there has been a considerable conflict of decisions. But a distinction was adopted, at a very early period, with regard to injunctions for restraining certain wrongful acts, of a special nature, as distinguished from the common injunction, for staying proceedings at law. It is the settled practice of the Court, in England, to allow affidavits to be read, at certain stages, against the answer, in cases of waste, and of injuries in the nature of waste; but, in cases of waste, they must be confined to the acts of waste, and the title, it is said, must be taken from the answer. Drewry on Injunc. 429; Gibbs *v.* Cole, 3 P. Will. 255; Norway *v.* Rowe, 19 Ves. 146, 153; Smythe *v.* Smythe, 1 Swanst. 254, and cases collected in the note. The question is, whether the same rule applies to cases of patents, or, whether they do not stand, in respect to the admission of affidavits on the point of title, upon the reason of the rule which permits affidavits in cases of waste, upon the facts of waste. The ground of permitting affidavits to be read on the part of the plaintiff, in cases of waste, is, that the mischief is irreparable; the timber, if cut, cannot be set up again, so that the mischief, if permitted, cannot be retrieved. The same

in cases of irreparable mischief, rests in the sound discretion of the Court, after answer, as well as before.

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reason exists in cases of partnership, by analogy to waste. Peacock *v.* Peacock, 19 Ves. 49. Does not this reason apply to a denial of the novelty of the plaintiff's invention? Such a denial, in the answer, the defendant has a right to make, and to have it tried at law; but, if the denial is to be taken as true, on a motion to grant or to dissolve an injunction, it may work an irreparable mischief, before the plaintiff can establish his right at law; and yet, this is the consequence of adopting the rule, that, in cases of patents, the title is to be taken from the answer, on motions for an injunction. The Court must either assume, that the denial in the answer, upon the point of novelty, is true, and, therefore, the plaintiff cannot have an injunction in any case, of however long possession, where the defendant chooses to make this denial; or, it must say, that, however strong the denial in the answer, the plaintiff shall always have his injunction; or, it must look into the evidence on both sides, sufficiently to determine, whether it is probable that the plaintiff will be able to establish his patent, and grant or withhold the injunction accordingly. The latter was the course taken by Mr. Justice Woodbury, in Orr *v.* Littlefield, where, however, an answer had not been filed, the defendant relying on affidavits; but the reasoning of the learned judge makes the same course applicable to cases where the equity of the bill is denied by the answer. See the observations of the Court, cited *ante*, p. 372. There is a dictum of Lord Langdale, M. R., in Wilson *v.* Tindal, Webs. Pat. Cas. 730, (cited *ante*, p. 382), that, "notwithstanding this order, (the injunction,) the defendant may put in his answer, he may displace all the affidavits which have been filed on both sides." This I conceive to mean, merely, that the defendant may show such a case, in his answer, as to control the *primâ facie* case made by the plaintiff; and not that the answer necessarily displaces the affidavits before filed. In Poor *v.* Carleton, 3 Sumner, 70, 83, Mr. Justice Story reviewed this whole subject, and laid down the broad doctrine, that the granting and dissolving injunctions, in cases of irreparable mischief, rests in the sound discretion of the Court, whether applied for before or after answer; and that affidavits may, after answer, be read by the plaintiff, to support the injunction, as well as by the defendant, to repel it; although the answer contradicts the substantial facts of the bill, and the affidavits of the plaintiff are in contradiction of the answer.

CHAPTER IV.

EVIDENCE.

§ 356. The evidence, appropriate to the different stages of a patent cause, may be divided into (1) the evidence of title, and (2) the evidence upon the point of infringement. Evidence of title relates to the letters-patent, and the plaintiff's interest therein, the novelty and utility of the invention, and the sufficiency of the specification. Evidence of the infringement relates to the identity of the thing made, used, or practised by the defendant, with the invention of the patentee.

§ 357. I. *As to the plaintiff's title.* With regard to the letters-patent, the Statute of 1836, § 4, 5, makes a copy, under the seal of the Patent Office and the signature of the commissioner, competent evidence that a patent has been granted by the government, for the invention described in the specification annexed. If the patent, produced in evidence, refers to the description in a former patent, it is necessary to produce and read that former patent, in order to show what the invention is, if it is not made entirely clear and intelligible, by the patent on which the action is brought.[1]

§ 358. The letters-patent being thus proved to have issued, they are *primâ facie* evidence that the patentee was the first inventor of the thing patented.[2] The reason, upon which

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[1] Lewis *v.* Davis, 3 C. & P. 502.

[2] Alden *v.* Dewey, 1 Story's R. 336; Woodworth *v.* Sherman, 3 Story's R. 172; Stearns *v.* Barrett, 1 Mason, 153. It is also held, in England, that the patent is *primâ facie* evidence, on the part of the person claiming the right that he is so entitled. Minter *v.* Wells, Webs. Pat. Cas. 129.

this is held, is, that our statute requires the patentee to make oath, that he is the first and true inventor of the thing; and, when the patent has issued, supported by this oath, the burden of proof is cast upon the party who would object, to show that the grant has been improperly obtained by the patentee; because the law presumes, in the first instance, that the patent has been granted upon the proofs which the statute requires to be laid before the officers of the government, and that those proofs were satisfactory.[1]

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[1] In the Philadelphia and Trenton Railroad Co. v. Stimpson, 14 Peters, 485, Mr. Justice Story, delivering the opinion of the Supreme Court of the United States, said: — "Now, the objection is, that the present patent does not contain any recitals that the prerequisites, thus stated in the act, have been complied with, namely, that the error, in the former patent, has arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention; and that, without such recitals, as it is the case of a special authority, the patent is a mere nullity and inoperative. We are of opinion that the objection cannot, in point of law, be maintained. The patent was issued under the great seal of the United States, and is signed by the President, and countersigned by the Secretary of State. It is a presumption of law, that all public officers, and especially such high functionaries, perform their proper official duties, until the contrary is proved. And where, as in the present case, an act is to be done, a patent granted, upon evidence and proofs to be laid before a public officer, upon which he is to decide, the fact that he has done the act, or granted the patent, is *primâ facie* evidence that the proofs have been regularly made, and were satisfactory. No other tribunal is at liberty to reëxamine or controvert the sufficiency of such proofs, if laid before him, when the law has made such officer the proper judge of their sufficiency and competency. It is not, then, necessary for the patent to contain any recitals, that the prerequisites to the grant of it have been duly complied with, for the law makes the presumption; and if, indeed, it were otherwise, the recitals would not help the case, without the auxiliary proof that these prerequisites had been, *de facto*, complied with. This has been the uniform construction, as far as we know, in all our courts of justice, upon matters of this sort. Patents for lands, equally with patents for inventions, have been deemed *primâ facie* evidence that they were regularly granted, whenever they have been produced under the great seal of the government, without any recitals or proofs that the prerequisites, under which they have been issued, have been duly observed. In cases of patents, the courts of the United States have gone one step further, and, as the

§ 359. When the patentee wishes to strengthen this evidence, either in the opening of his case, or to rebut any evidence offered by the defendant, which may have tended to show that he was not the first inventor, he can only call persons who were in the way of hearing of the invention, if it had existed before, to testify that they have not heard of it. The proposition which the plaintiff has to establish, is, strictly, a negative; he is to prove that the invention did not exist before; and, therefore, as has been said, he must proceed by exhausting the affirmative instances of it, by calling those persons who might have known of it, if it had existed before, but who never have heard of it; and the more those persons, from their acquaintance with the particular trade or manufacture, were in the way of hearing of or meeting with it, the stronger the evidence will be.[1]

§ 360. Although this evidence is only general and negative, it is not, on that account, without weight. To illustrate its force, as well as its proper office, we may suppose a case, where the defendant had succeeded in showing, that some prior inventor had made experiments in the same line as the patentee, and that this evidence goes so far as to show, that that person had probably accomplished the same result as the patentee; but the point is still left in doubt, whether he had actually reached and perfected the invention for which the plaintiff has obtained a patent. The rule of law, in such cases, is, that, if the prior efforts of some preceding inventor rested in experiment alone, his experiments, however near they may have been carried to the complete production of the thing, will not prevent a subsequent more successful inventor, who has produced the perfect result at which both

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patentee is required to make oath that he is the true inventor, before he can obtain a patent, the patent has been deemed *primâ facie* evidence that he has made the invention."

[1] Cornish *v.* Keene, Webs. Pat. Cas. 503; Galloway *v.* Bleaden, Ibid. 526.

may have aimed, from obtaining a valid patent. The question for the jury will therefore be, in such cases, whether the efforts of the prior inventor rested in experiment alone, without coming to the point of completion, both in the theory and the actual application of the invention. Upon this question, the fact, that the invention was never heard of until it was known to have proceeded from the present patentee, is of great weight. If it had been heard of among those persons who make it the business of their lives to know what is going on in the particular trade or art which it concerns, or to know what inventions, in all arts or trades, are, from time to time, produced, prior to the time when it was made by the patentee, the presumption would be very strong that the person, who is proved to have made near experiments towards it, had actually accomplished the perfect result.[1] Still, the evidence would not be conclusive, because the report, that such an invention had been made, might have arisen from what had been done in the way of experiment alone. But it would be very strong presumptive evidence that the experiments had terminated successfully, if persons, who were in the way of hearing of such inventions, should testify that they had heard of such an invention having been announced, although they had not seen it. On the other hand, if such persons had not heard of such an invention, the evidence would not show conclusively that the prior experiments rested in experiment alone, but it would have a very strong tendency to establish this conclusion, because there is an irresistible tendency in inventions to

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[1] If such persons had seen the thing, no further inquiry would be necessary, for the proof would be positive, that the thing existed before. But the evidence we are here considering, relates merely to the fact of such persons having or not heard of the invention, which fact, if shown in the affirmative, of course must be aided by proof of its having been made by somebody, and would not, alone, be conclusive proof of its actual previous existence.

become known, as to their results, if not as to their processes, whenever the results are accomplished.[1]

§ 361. There is one other species of evidence, applicable to the issue of novelty, when the question is as to the time when the patentee had completed his invention. It may be necessary for the plaintiff to rebut evidence, offered by the defendant, as to the invention and use of the same thing by other persons, before the date of his patent, and hence it may be important to show the precise time when the invention was completed by the patentee. For this purpose, the patentee may give in evidence his own declarations, as part of the *res gestæ*, describing the nature and objects of the invention, to an extent which has been defined by the Supreme Court of the United States.[2]

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[1] The case of Galloway *v.* Bleaden, Webs. Pat. Cas. 521, 525, presents a state of facts similar to that which we have supposed in the text. Two witnesses, conversant with subjects of the description of the patented invention, and who devoted themselves to the knowledge of the inventions made from week to week, testified that they had not before heard of such a discovery, previous to the issuing of the plaintiff's patent. The Court said, this was enough to call on the other side, to show affirmatively that the invention was not new, and that it was for the jury to say whether the evidence, as to what had been done by the antecedent experiments or efforts of others, in the way in which it ought to be understood, had brought their minds to that conclusion.

[2] "In many cases of inventions, it is hardly possible, in any other manner, to ascertain the precise time, and exact origin, of the particular invention. The invention itself is an intellectual process, or operation; and, like all other expressions of thought, can, in many cases, scarcely be made known except by speech. The invention may be consummated and perfect, and may be susceptible of complete description in words, a month, or even a year, before it can be embodied in any visible form, machine, or composition of matter. It might take a year to construct a steamboat, after the inventor had completely mastered all the details of his invention, and had fully explained them to all the various artisans whom he might employ to construct the different parts of the machinery. And yet, from those very details and explanations, another ingenious mechanic might be able to construct the whole apparatus, and assume to himself the priority of the invention. The conversations and

§ 362. Sometimes, the issue of novelty involves the identity or diversity of the thing patented, compared with something before known or used, on which the defendant relies to defeat the patent. The nature of the evidence, and the sources from which it is to be drawn, are the same upon this issue, as when the question of identity or diversity arises under the issue respecting an infringement; and the consideration of the principles of evidence, on both of these issues, may here be postponed, until we come to the general discussion of the question of identity.

§ 363. The plaintiff must also offer some evidence of the utility of his invention. The degree of utility, as we have seen, is not material; but the invention must be capable of some use, beneficial to society. This is ordinarily proved by the evidence of persons conversant with the subject, who may be called to say, whether the thing invented is, or is not, capable of the use for which it is designed, or, whether it is an improvement upon what had been in use before. But it may also be proved, by other testimony, which will show that large orders have been given for the article, by the public, or that licenses have been taken for the exercise of the right.

§ 364. The plaintiff, in addition to the *primâ facie* evidence of the novelty of his subject-matter, must also offer some proof of the sufficiency of his specification. In other words,

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declarations of a patentee, merely affirming that, at some former period, he invented that particular machine, might well be objected to. But his conversations and declarations, stating that he had made an invention, and describing its details, and explaining its operations, are properly to be deemed an assertion of his right at that time, as an inventor, to the extent of the facts and details which he then makes known; although not of their existence at an antecedent time. In short, such conversations and declarations, coupled with a description of the nature and objects of the invention, are to be deemed a part of the *res gestæ*, and legitimate evidence that the invention was then known to, and claimed by, him; and thus its origin may be fixed, at least, as early as that period." The Philadelphia and Trenton Railroad Company *v.* Stimpson, 14 Peters, 462.

he must show, to use the language of the statute, that his specification is "in such full, clear, and exact terms, as to enable any person, skilled in the art or science to which it appertains, to make, construct, compound, or use" the thing patented. This may be apparent to the jury, on the face of the specification itself, from its simplicity, and the absence of technical terms and descriptions; but where the invention is at all complicated, or terms of art or science are made use of, requiring the exercise of technical knowledge, to determine whether the specification is sufficient, it is, at least, advisable, if not necessary, for the plaintiff, in opening his case, to give some evidence that his specification can be applied by those to whom the law supposes it to be addressed. If the sufficiency of the specification is disputed, the plaintiff must go into evidence to sustain it. How much of this evidence may properly be reserved for answer to the defendant's case, and how much should be introduced in the plaintiff's opening, must depend on the circumstances of the trial, although it may be stated, as a general rule, that slight evidence of sufficiency is all that is necessary to be offered at first, in order to make it incumbent on the defendant to falsify the specification.[1]

§ 365. The nature and source of the evidence, to show the sufficiency of a specification, present a topic of much interest, under that somewhat difficult branch of the law of evidence

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[1] It seems to be the rule, in England, that the plaintiff must open with some evidence of the sufficiency of his specification, unless the defendant admits that it was tried, and succeeded. Turner *v.* Winter, Webs. Pat. Cas. 81; 1 T. R. 602; Cornish *v.* Keene, Webs. Pat. Cas. 503. And, if a whole class of substances be stated as suitable, the plaintiff must show that each of them will succeed. Bickford *v.* Hewes, Ibid. 218. Under our system of pleading, the same rule should be followed. Although the defendant is obliged to give notice, if he intends to rely on the insufficiency of the specification, the plea of not guilty puts the sufficiency of the specification in issue, and the plaintiff must, therefore, prove it as one of the things necessary to found his action.

which relates to experts. What is the meaning of the statute, when it refers to the ability of persons "skilled in the art or science" to which the invention appertains, "or with which it is most nearly connected," to make, construct, compound, and use the same? Does it mean to adopt, as witnesses, those only who have the practical skill of artisans in the art or science, and to make their ability to understand and apply the specification the test of its sufficiency; or does it include that higher class of persons, who, from general scientific knowledge, or from a theoretical acquaintance with the principles of the art or science involved, might be able to teach an artisan or practical workman how to practise the invention? It is apparent, that both of these classes of persons may be, within the literal meaning of the phrase, "skilled in the art or science;" but the question is, whether the law contemplates one only, or both of them, as the proper witnesses to determine the sufficiency of a specification. It seems to me very clear, that the law means to adopt, as a general standard of the sufficiency of a specification, the ability of skilful practical workmen to practise the invention, from the directions given in the specifications. The standard of acquirement and knowledge may vary with the nature of the subject-matter; but where the invention falls within the province of an art or science, which is practised by a particular class of mechanics, operators, manufacturers, or other workmen, who possess, and whose vocation it is to apply, technical knowledge, in that particular branch of industry, the Patent Law refers to their capacity to take the specification, and carry out, in practice, the direction which it contains, without invention or addition of their own.

§ 366. Thus, if the invention be a pump, or of some improvement in pumps, the question will be, whether a pump-maker, of ordinary skill, could construct one upon the plan given in the specification from the directions given.[1] If it be

[1] Lamb *v.* Lewis, 1 Mason.

a composition of matter, falling within the art of practical chemistry, the question on the specification will be, whether its directions are so clear and intelligible that a practical chemist, of ordinary skill, could make the compound, by following out the directions.[1] If it be a process, involving the application of a principle in physics to a particular branch of manufacture, to be carried into effect in a particular manner, the question will be, whether the directions, if fairly followed out, by a competent workman, of the class ordinarily employed to construct an apparatus of that kind, would produce the effect intended.[2] This seems to be the general rule, applicable to a very large proportion of the inventions which become the subjects of patents; and, accordingly, it may be stated, as a general rule, that the proper witnesses to determine on the sufficiency of a specification, are practical workmen of ordinary skill, in the particular branch of industry to which the patent relates, because it is to them that the specification is supposed to be addressed.[3]

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[1] Ryan *v.* Goodwin, 3 Sumner, 514.

[2] Neilson *v.* Harford, Webs. Pat. Cas. 371.

[3] Gibson *v.* Brand, Webs. Pat. Cas. 629; Bickford *v.* Skewes, Ibid. 219; Arkwright *v.* Nightingale, Ibid. 61; Elliott *v.* Aston, Ibid. 224; Huddart *v.* Grimshaw, Ibid. 87; Morgan *v.* Seaward, Ibid. 174; Neilson *v.* Harford, Ibid. 371. The following instructive charge, given by Alderson, B., to the jury, in Morgan *v.* Seaward, contains an elaborate illustration of the law on this point of intelligibility. "I will now begin with the specification. It is the duty of a party, who takes out a patent, to specify what his invention really is, and, although it is the bounden duty of a jury to protect him in the fair exercise of his patent-right, it is of great importance to the public, and by law it is absolutely necessary, that the patentee should state, in his specification, not only the nature of his invention, but how that invention may be carried into effect. Unless he be required to do that, monopolies would be given, for fourteen years, to persons who would not, on their part, do what in justice and in law they ought to do:— state fairly to the public what their invention is, in order that other persons may know what is the prohibited ground, and in order that the public may be made acquainted with the means by which the invention is to be carried into effect. That is the fair premium which the patentee pays for the monopoly he receives. The question is,

§ 367. At the same time, there may be another class of witnesses, of much higher character, competent to be exa-

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whether Mr. Galloway has, in the specification, and which is accompanied by a drawing, which you ought to take as a part of the specification, described, with sufficient clearness and distinctness, the nature of his invention, and the mode by which it is to be carried into effect. He has described two inventions, and, if either of those inventions is sufficiently specified, the patent fails; for if a person runs the hazard of putting two inventions into one patent, he cannot hold his patent, unless each can be supported as a separate patent. In order to support each, the invention must be useful, and must be described in the specification, in such a manner, as to lead people clearly to know what the invention is, and how it is to be carried into effect. That doctrine must be applied to each of the two inventions, contained in this patent, that is, to the invention of the steam-engine, and the invention of the machinery for propelling vessels.

"To begin, therefore, with the steam-engine. — Has Mr. Galloway sufficiently described it, so as to enable any one to know what he has invented, and so as to enable a workman of competent skill to carry the invention into effect? Mr. Justice Buller, in the case of the King *v.* Arkwright, lays down, as the criterion, that a man, to entitle himself to the benefit of a patent of monopoly, must disclose his secret and specify his invention in such a way, that others of the same trade, who are artists, may be taught to do the thing for which the patent is granted, by following the directions of the specification, without any new invention or addition of their own. That is reasonable and proper; for people in trade ought to be told the manner in which the thing may be done, in respect of which the patent is granted. How? Not by themselves becoming inventors of a method of carrying it into effect, but by following the specification, without making a new invention, or making any addition to the specification. If the invention can only be carried into effect by persons setting themselves a problem to solve, then they who solve the problem become the inventors of the method of solving it, and he who leaves persons to carry out his invention, by means of that application of their understanding, does not teach them, in his specification, that which, in order to entitle him to maintain his patent, he should teach them, the way of doing the thing; but sets them a problem, which, being suggested to persons of skill, they may be able to solve. That is not the way in which a specification ought to be framed. It ought to be framed so as not to call on a person to have recourse to more than those ordinary means of knowledge, (not invention) which a workman of competent skill in his art and trade may be presumed to have. You may call upon him to exercise all the actual existing knowledge common to the trade, but you cannot call upon him to exercise

mined on this point. These are persons who possess a thorough scientific knowledge, of a theoretical nature, of the prin-

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any thing more. You have no right to call upon him to tax his ingenuity or invention. Those are the criteria by which you ought to be governed, and you ought to decide this question according to those criteria. You are to apply those criteria to the case now under consideration, and you should apply them without prejudice, either one way or the other, for it is a fair observation to make, that both parties here stand, so far as this objection is concerned, on a footing of perfect equality. The public, on the one hand, have a right to expect and require that the specification shall be fair, honest, open, and sufficient; and, on the other hand, the patentee should not be tripped up by captious objections, which do not go to the merits of the specification. Now, applying those criteria to the evidence in the cause, if you shall think that this invention has been so specified that any competent engineer, having the ordinary knowledge which competent engineers possess, could carry it into effect by the application of his skill, and the use of his previous knowledge, without any inventions on his part, and that he could do it in the manner described by the specification, and from the information disclosed in the specification, then the specification would be sufficient. If, on the other hand, you think that engineers of ordinary and competent skill would have to set themselves a problem to solve, and would have to solve that problem before they could do it, then the specification would be bad.

"Further, if a patentee is acquainted with any particular mode by which his invention may be most conveniently carried into effect, he ought to state it in his specification. That was laid down in a case before Lord Mansfield. There the question arose on a patent for steel trusses. It appeared that the patentee, in some parts of his process, used tallow to facilitate the invention for which he had obtained a patent, and, in his specification, he made no mention of the use of the tallow. The Court held the specification to be bad, because, they said, you ought not to put people to find out that tallow is useful in carrying into effect the invention of steel trusses. You ought to tell the public so, if that is the best mode of doing it, for you are bound to make a *bonâ fide* full and candid disclosure. So, again, in the case of the malt. That was a patent for drying malt, and one of the objections taken was, that the patentee did not state in his specification the degree of heat to which the malt should be exposed. The argument there was this. They said, it appeared that the specification was not sufficient, inasmuch as it did not describe the extent of heat to which the malt should be exposed, for it only said, 'the proper degree of heat and time of exposure will be easily learned by experience, the color of the internal part of the prepared grain affording the best criterion.' Surely, there it would have been competent to

ciples of the art or science to which the patent relates; but who do not, as an habitual occupation, devote themselves to

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the patentee to say, any person of ordinary skill, in such a business, would be able to judge what color the malt ought to be, and that, by experiment, he would learn what degree of temperature was exhibited at the time when that proper degree of color was obtained; therefore, the plaintiff contended that there was enough stated in the specification to enable the public to carry the invention into effect, and that the patent ought to be supported, because skilful maltsters and skilful dryers of malt would easily know where to stop, and what degree of heat was requisite for the purpose. There is no doubt that, when a man was told that a certain effect might be produced upon the malt by shaking it and subjecting it to a certain degree of heat, his mind would be set on float; he would be at work upon it, to ascertain what that degree of heat should be, and he would probably find it out. But that is not enough. The specification of a patent must not merely suggest something that will set the mind of an ingenious man at work, but it must actually and plainly set forth what the invention is, and how it is to be carried into effect, so as to save a party the trouble of making experiments and trials. The Court, in that case, said, that a specification that casts upon the public the expense and labor of experiments and trials, is undoubtedly bad. Here, in this case, the defendants take that line of argument; they say that experiments and trials are necessary. If it be said that all these matters will be well or easily known to a person of competent skill, (and to such only the patentee may be allowed to address himself,) then the invention will not in reality have given any useful or valuable information to the public.

"Now, let us apply the principle of this case to the present, and see whether or not the patentee here has given that full information, by the specification and drawing, which, being addressed to persons of competent skill and knowledge, would enable them, from that specification and drawing, to carry the invention into effect. On that subject, there is, undoubtedly, contradictory evidence; but you see a specification is addressed to all the world, and, therefore, all the world, at least those possessed of a competent skill, ought to be able to construct the machine by following that specification. It is not fair to you or to me, if we happen to be less inventive than our neighbors, that we should be prevented from constructing these machines, by reason of the specification not giving a clear exposition of the way in which it is to be done. In the case of the steam-engine, there was put in, on the part of the defendants, a model, made, as it was said, according to the specification, which model would not work. The model was a copy of the drawing, and would not work, because one part happened to be a little too small, whereas, if it had been a little larger, it would have worked. Now a work-

the application of those principles, in the practical exercise of that art, science, or manufacture. Such persons may,

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man, of ordinary skill, when told to put two things together, so that they should move, would, of course, by the ordinary knowledge and skill he possesses, make them of sufficient size to move. There, he would have to bring to his assistance his knowledge that the size of the parts is material to the working of the machine. That is within the ordinary knowledge of every workman. He says, 'I see this will not work, because it is too small,' and then he makes it a little larger, and finds it will work; what is required, is, that the specification should be such, as to enable a workman of ordinary skill to make the machine; with respect to that, therefore, I do not apprehend you will feel much difficulty, but with respect to the other, there is a good deal more difficulty. I will not sum up the evidence upon the subject of the steam-engine, but I will confine myself to the second invention, and see whether that can be carried into effect by means of the specification and the drawings, for it is to that question that the whole is directed. That invention is in two parts: first, he says, it is an improvement on paddle-wheels for propelling vessels, whereby the float-boards or paddles are made to enter and come out of the water at positions the best adapted, as far as experiments have determined the angle, for giving full effect to the power applied. He says, as far as experiments have determined the angle. That clearly speaks of an invention for enabling a party to use paddle-wheels for propelling vessels, which may be adjusted in such a way as that they may enter and come out of the water in angles the best adapted to give effect to the power of the engine; that is to say, at the angle *a*, if that shall be the best position for giving full effect to the power of the engine, or at the angle *b*, if that shall hereafter, by experiment, be determined to be the proper angle. It appears, from his statement here, that the proper angle was a matter of considerable doubt at that time; and, therefore, he does not profess to set down an individual angle as the best, which appears to have been one of the ideas of the defendant, as to the effect of the plaintiff's specification. But he says, 'I will give you a method of enabling the paddle-wheels to enter and come out of the water, with the position the best adapted for giving full effect to the power of the engine.' Then, at the end of the specification, after having described the manner in which it is to be done, he says, that his claim is 'for the mode herein before described, of giving the required angle to the paddles,' (that is, any angle which may be required by the person ordering the machinery,) 'by means of the rods, *g*, *h*, *i*, *j*, and *k*, the bent stems marked *f*, the disc, *a*, and the crank, *b*.' Now, I do not think that means he is to give you a machine, the angle of which may now be *a*, and now *b*, but that, if you wish to have a machine, the paddles of which shall

without doubt, be examined as to the sufficiency of a specification; but the question which should be propounded to

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enter at angle *a*, which you tell him, and go out at angle *b*, which you tell him, he ought to be able to construct a machine which shall answer to your order. That I take to be what the inventor says he has enabled the public to do, by means of his specification and plan. He then describes the invention. In fig. 4, you have the shape of the stem, and a particular angle is mentioned, but it is obvious that it is not an angle to which the parties are necessarily to be confined. Then he says, '*g*, *h*, *i*, *j*, and *k*, are connecting rods, attached at one of their ends by pins or bolts, *r*, to the bent stems, *f*, of the float-boards, and the other ends of all these rods, excepting *g*, are attached to the disc, *a*, by pins or bolts, *s*, as shown in fig. 5. The only observation is, that he gives no dimensions; he fixes no points, either for the centre of the eccentric, or for the crank to which the eccentric centre is attached; therefore, if those can only be ascertained by experiments subsequently to be made, then the specification is bad. The whole, in some degree, turns upon the length of the rods, and the position of the centre of the eccentric. The principle upon which these parties proceed, and upon which all the inventions in that respect proceed, is, that the wheel, with its spokes, to which the floats are attached, turns round on an axis, and the floats are made to turn by means of an eccentric, and, therefore, the floats bend as the wheel revolves, and they bend, in a particular manner, according as the floats are disposed, and according to the position of the centre of the eccentric, by which they are regulated. They are regulated by means of a fixed bar, which is attached to the centre of the eccentric disc. The others are movable boards, which are attached, apparently, to the circumference of that same disc, and the whole is made to revolve by the fixed bar being attached to a fixed point of the wheel itself, and, therefore, the revolution of the wheel forcing that fixed point round, turns round the eccentric disc, and with it changes continually the position of all those rods which are affixed to the circumference of that disc, and, according to their being on one or the other side of that disc, they operate on the respective float-boards to which they are attached. All that turns upon the position of the eccentric axis, and the length of the respective rods operating through the medium of this centre upon the respective float-boards; now, the question is, whether, in the absence of any statement, as to the dimensions of these different parts, and of any directions for finding the centre of the eccentric, you think the specification is sufficient or not, and that must be determined by the evidence which has been given, by the witnesses on the one side and on the other.

"Now, gentlemen, you cannot treat the actual picture which is given in the drawing as any guide to the particular angle, or to the particular position

them, in cases where there is a recognized class of practical workmen, who would be called upon to apply the directions

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of the eccentric; and for this simple reason. If that were the criterion, then the substance of the invention would be the particular angle contained in the particular drawing, and, in order to show an infringement, they ought to have shown that Mr. Seaward's wheel entered the water at the same angle as the angle described by the drawing, and, therefore, in that case, you would be bound to find the first issue for the defendant, namely, that there was no infringement. If, however, you treat the picture or the drawing as only an illustration of the invention, and not as confining the invention to the particular angle there described, then you ought to find in the specification some directions, which should enable you to construct the machine in a new form, or you ought to be satisfied that, without any instructions, a workman of ordinary and competent skill, and knowledge, would be able to do it. Now, I do not think that Mr. Carpmael gives any evidence to that point; but Mr. Brunel says, 'I have read the specification, and I think I could construct by it a machine, at any required angle, without difficulty.' You see he says, 'I think I could construct by it a machine, at any required angle, without difficulty;' but whether Mr. Brunel could do it or not, is not the point. I dare say, Mr. Brunel, the inventor of the block machinery, could invent any thing of this sort, the moment it was suggested to him, but that is not the criterion. The question is, whether a man of ordinary knowledge and skill, bringing that ordinary knowledge and skill to bear upon the subject, would be able to do it.

"Then the evidence of Mr. Park is much more material. He says, 'I could, without any difficulty, make the machine so that the paddles could enter the water at any angle.' He prepared the models which have been used. Now, the criterion is, whether, at the time when the specification was introduced to the world, Mr. Park would have been able to construct the machine, with his ordinary knowledge and skill, without the peculiar knowledge he has since obtained upon the subject, from being employed to make the models for Mr. Morgan, because it would not be at all fair to allow your verdict to be influenced by knowledge so acquired; but he says, with his ordinary knowledge and skill, he could, without difficulty, construct a wheel, so that the paddles should enter the water at any angle. He says, if the diameter of the wheel is given, which it is fair should be given, and the immersion of the float, and that is also fair to be given, he could do it. Those are reasonable data for him to require, and if, with his ordinary skill and knowledge, and without that peculiar knowledge which he has obtained, in consequence of his connection with the plaintiffs, and with this cause, he could do it, that would be evidence on which you would be entitled to place

of the specification, is, whether a person of that class, of ordinary skill, could practise the invention from these direc-

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reliance. Then he tells you how he could do it; now, I do think it would have been a vast deal better if the specification had given us the same information, for that is what a specification ought to do.

"The specification ought to contain a full description of the way in which it is to be done. The question really is, whether, upon the whole evidence, you are of opinion that the specification does fairly and fully and properly give to the public that information which the public are entitled to receive; that is to say, whether it tells them, without having recourse to experiments, how to do it, or whether it even tells them what is the course their experiments ought to take — to what point their examinations and experiments should be directed. He says, he could do it with the skill he possesses; and he has described the manner in which he proposes to do it. He says, 'I have seen this drawing;' then he produces a drawing, and he says, 'this represents my plan of drawing it. An engineer of competent skill would have no difficulty in doing it.' His doing it himself, I do not consider so material, but he says an engineer of competent skill would have no difficulty in doing it. That is material.

"Then, when that drawing was shown, some of the gentlemen appearing on behalf of the defendants, drew an angle upon it as the angle of entering, and asked him how that could be done. No doubt his principle would enable him to work out any angle, but there are a set of angles which would cause the centre of the eccentric to go beyond the wheel itself, which, therefore, it is impossible to carry into effect, but those angles are such as would not be required in ordinary practice by any persons. You should discard, on both sides, all exaggerated cases, and look to the substance of the thing. If you think, in substance, that the information, really communicated, would be enough, in all ordinary cases, or in such cases as are likely to occur, then that would do; but if it is not a clear statement, and if it does not give such information as will render it unnecessary for parties to make experiments, then the specification would, in that respect, be insufficient. It is most important that patentees should be taught that they are bound to set out fully and fairly what their invention is; for, suppose a person were to make an invention, and get a right of making it for fourteen years, to the exclusion of all other persons, it would be a very great hardship upon the public, if he were to be allowed to state his specification in such a way, that, at the expiration of the term of his patent, he might laugh at the public, and say, I have had the benefit of my patent for fourteen years, but you, the public, shall not now carry my invention into effect, for I have not shown you how it is to be done. I have got my secret, and I will keep it.

tions. There does not seem to be any authority, which goes the length of saying that a specification, in cases of this kind,

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"Mr. George Cottam says, 'it is a common problem to find a centre from three given points, and a person of ordinary engineering skill ought to be able to do that.' The question is, whether it ought not to be suggested to him by the specification, that that is the problem to be solved. Then Mr. Curtis says, 'I have made wheels on this plan.' You see he made the two wheels which were sent to the Venice and Trieste Company, but those were made under the direction of Mr. Galloway, the inventor. Now, it somewhat detracts from the weight due to his testimony, not as to his respectability, but as to the value of his evidence to you, that he had received the verbal instructions of Mr. Galloway. It may be that he could do it, because of his practice under Mr. Galloway; and it must be recollected that people in other places would not have that advantage. He says, he would not have any difficulty in doing it; and he says, 'I should not consider my foreman a competent workman, unless he were able to make the wheel from the specification and drawings.' He says, 'I could alter the angle by altering the cranks.' The question is not, whether he could do that, but whether he could alter the angle to a particular angle by altering the cranks in a particular way; that is, whether, having the angle given to him, he could make the alteration that was desired. Then, Mr. Joseph Clement says, he is a mechanic, and did the work of Mr. Babbage's calculating machine; that he has seen the model of the steam-engine and paddle-wheels. He speaks of the similarity of the plaintiffs' and defendants' wheels, and says, 'I could make the machine from the specification and drawing. The float ought to enter the water at a tangent to the epicycloid.' That is only his opinion as to the most convenient angle. The real motion of the boat is this. The wheel keeps turning round and round on its own axis; during that time the boat has a progressive motion. The wheel, therefore, has a double motion; therefore, every point of the wheel does not move in a circle, but in a cycloid, that being the curve described by the rolling of a circle on a flat surface. He says, it should enter at a tangent, that is, that the angle should be such that it will enter the water perpendicularly, in consequence of the motion of the boat, and of the point of the wheel. He says, in like manner, it ought to go up. That is, probably, a very correct view of the case. He says, 'I should have no difficulty in constructing a float to enter at any angle ordinarily required. A man, properly instructed in mechanics, would have no difficulty in doing it.' That is his evidence, which is material for you to consider; and he is a mechanic himself.

"Then, Henry Mornay, a young gentleman in Mr. Morgan's employment, where he has been apparently studying the construction of engines, speaks

would be good, if every competent artisan who might be

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of a circumstance, which does appear to me to be material. He says, Mr. Morgan, in practice, makes his rods of different lengths. He must necessarily do so, in order that the floats may follow at the same angle as that at which the driving float enters the water. The problem, which Mr. Park solved, is a problem applying to three floats only; but it appears that the other floats will not follow in the same order, unless some adjustment of the rods is made. Now, suppose it was to be desired that the floats should all enter the water at the given or required angle, if one should go in at one angle, and one at another, the operation of the machine would not be uniform; and the specification means, that the party constructing a wheel should be able to make a wheel, the floats of which shall all enter at the same angle, and all go out at the same angle. Now, in order, in practice, to carry that into effect, if there are more than three floats, something more than Mr. Park's problem would be required; and Mr. Mornay says, actually, that Mr. Morgan, in practice, makes his rods of different lengths, and he must necessarily do that, in order that the floats may follow at the same angle as the driving float enters the water. If so, he should have said in his specification, 'I make my rods of different lengths, in order that the rest of my floats may enter at the same angle; and the way to do that is so and so.' Or, he might have said, 'it may be determined so and so.' But the specification is totally silent on the subject; therefore, a person reading the specification would never dream that the other floats must be governed by rods of unequal length; and, least of all, could he ascertain what their lengths should be, until he had made experiments. Therefore, it is contended that the specification does not state, as it should have stated, the proper manner of doing it. He says, if they are made of equal lengths, though the governing rod would be vertical at the time of entering, and three would be so when they arrived at the same spot, by reason of the operation Mr. Park suggests, yet the fourth would not come vertical at the proper point, nor would the fifth, sixth, or seventh. Then they would not accomplish that advantage which professes to be acquired. The patentee ought to state, in his specification, the precise way of doing it. If it cannot completely be done, by following the specification, then a person will not infringe the patent by doing it. If this were an infringement, it would be an infringement to do that perfectly, which, according to the specification, requires something else to be done, to make it perfect. If that be correct, you would prevent a man from having a perfect engine. He says, practically speaking, the difference in the length of the rods would not be very material, the difference being small. But the whole question is small, therefore it ought to have been specified; and, if it could not be ascertained fully, it should have been so stated. Now, this is the part to which I was referring,

called, were to testify that he could not apply the directions

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when, in the preliminary observations I addressed to you, I cited the case before Lord Mansfield, on the subject of the introduction of tallow, to enable the machine to work more smoothly. There it was held, that the use of the tallow ought to have been stated in the specification. This small adjustment of these different lengths may have been made for the purpose of making the machine work more smoothly; if so, it is just as much necessary that it should be so stated in the specification, as it was that the tallow should be mentioned. The true criterion is this, — has the specification substantially complied with that which the public has a right to require? Has the patentee communicated to the public the manner of carrying his invention into effect? If he has, and if he has given to the public all the knowledge he had himself, he has done that which he ought to have done, and which the public has a right to require from him.

"I will now read the defendant's evidence, and you will see, whether, upon the whole, there is evidence before you, on which you think you can come to any reasonable conclusion.

"Now, first of all, Mr. Donkin, a man of considerable experience, is called; but, before I go to his evidence, I will remark, that I have always found that there is a great deal of contradiction, in questions of this description; but that is not to be attributed, in the least degree, to corruption, or to any intention to misrepresent or mislead — people's opinions vary. They come to state to you, not matters of fact, but matters of opinion, and they tell you, conscientiously, what their opinion really is. You may have a great difference of opinion, among scientific men, on a question relating to science; but though, by their evidence, they contradict one another, they are not influenced by a corrupt desire to misrepresent.

"Now, Mr. Donkin says, 'On first reading the specification, I thought there was a defect, in its not explaining the mode of obtaining the required angle. In my judgment, a workman of ordinary skill would not be able to find out any mode of obtaining the required angle.' He says, a geometrician might discover the mode of adjusting the three angles; the angle of immersion, the vertical angle, and the angle of emersion; but, in order to discover the mode, by which all the paddles may enter at the same angle, another discovery must be made. He says, it requires to be ascertained, by experiment or diagram, whether the adjustment is to be made by altering the bent stem, or by varying the length of the rods, and you have nothing but the drawing to guide you, in that respect. He says, he must first ascertain whether he is to produce the effect, by altering the centre, or by altering the bent stem, or varying the lengths of the movable rods. What are those but experiments to ascertain how the thing should be done, all of which he ought to have been saved, by its being stated, in the specification,

successfully, provided a scientific witness, of the other class,

how to do it. However, that is his evidence; he says, the angle must depend on the dimensions of the several parts of the wheel. Then he goes on to the other parts of the case, and, on his cross-examination, he says, 'I think a competent workman would be able to do it, if he made the previous discovery; but he would not do it, unless a careful investigation was gone into.' He says, 'Few ordinary workmen would be able to get the desired angle; I think my foreman would — I think a person moderately acquainted with geometry might do it, but he must find it out — he could sit down and determine it. If he possessed proper information, he ought to be able to do it. An engineer, properly skilled in geometry, ought to be able to find out how the angle was to be determined. If he sat down, and referred to his general knowledge, he would find it out.' Now, the criterion is not, whether he could find it out or not, but whether he could do it, by means of the information contained in this specification and drawing, calling in aid his general knowledge, and those mechanical means with which he may reasonably be expected to be familiar; but if he is to sit down, and consider how it is to be done, that is not sufficient. You will judge whether or not the evidence of this witness satisfies you on these points, and whether it makes out the proposition for which the defendants contend.

"Then, Mr. Brunton says, 'I think a workman, of competent skill, could not construct a machine, so as to have the floats enter at any particular angle, and leave at a particular angle.' He says, if the required angle was different from the drawing, it would be an exceedingly difficult thing, and he is not prepared to say how he could do it. Then, Mr. Hawkins says, 'I do not think a workman of ordinary skill could, from the plan and specification, make a wheel that should enter and quit the water at a different angle from that given in the drawing, unless he possessed considerable ingenuity for inventing the method of doing it.'

"Then, Mr. Peter Barlow says, 'There are *not*, I think, sufficient data to adjust the angle.' He says, if the length of the stems was given, the difficulty would be very great, but it would have been a guide, and it ought to have been explained. That appears to me to be a very good common-sense observation. Then, Mr. John Donkin says, 'I think an ordinary workman would find considerable difficulty in altering a paddle-wheel, to suit a particular angle, and I doubt whether he could do it.' On his cross-examination, he says, 'It requires more than a common knowledge of geometry; I think a man moderately acquainted with geometry might do it; but he would have to make experiments, and his first experiments would fail. A skilful engineer would have less difficulty in it, but he ought to be able to find it out.' Then, Mr. Bramah says, 'I think I could discover how to do it.' He has been an engineer many years, and he says, 'I

were to testify that he could teach or demonstrate to an artisan how to apply them;[1] although proof may be offered

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think I could discover it, but I do not know, at present, how to do it. Yesterday I attended to the evidence, and this morning I tried to find out how it was to be done, but I could not.' Supposing Mr. Bramah had to make a machine of this kind, is he to sit down and invent a mode of doing it, or ought he not to have such information afforded, as would enable him to do it at once, by means of the specification? Then, Mr. Francis Bramah says, 'I have examined the specification; I could not make a machine from the specification, the floats of which should enter and leave the water at any required angle. Till I came into Court, yesterday, I presumed that the angle given in the drawing was the best angle, that is, that the specification had not only stated how to do it, but had described the best angle.' If so, it would be a specification only for that particular angle. He says, 'I can go as far as I was told, yesterday, but no farther.'

"Now, gentlemen, I have gone through the evidence on both sides, on this point, and the question, upon this part of the case, revolves itself into this: Do the witnesses, on the plaintiff's side, satisfy you that the patentee has, in his specification, given to the public the means of making a machine, which shall enter and leave the water at any angle that may be ordered; that is, if a man ordered a machine, at an angle likely to be required for entering and going out, and to be vertical at the bottom, could an ordinary workman, with competent skill, execute that order, by following the directions given in this specification? If you think he could, then the specification would be sufficient. If, on the other hand, you think he would not be able to execute the order, unless he sat down and taxed his invention to find out a method of doing that which has not been sufficiently described in the specification, then the specification would be bad. If you think the specification good, then you ought to find for the plaintiffs upon that issue; if you think the specification bad, then you ought to find for the defendants."

[1] In Allen *v.* Blunt, 3 Story's R. 747, 748, Mr. Justice Story made use of the following language: — "As to the relative weight of the evidence of persons practically engaged in the trade, employment, or business of the particular branch of mechanics to which the patent-right applies, and the evidence of persons who, although not practical artisans, are thoroughly conversant with the subject of mechanics, as a science. It appears to me, that the Patent Acts look to both classes of persons, not only as competent, but as peculiarly appropriate witnesses, but for different purposes. Two important points are necessary, to support the claim to an invention: First, that it should be substantially new; as, for example, if it be a piece of

of the opinions of scientific witnesses, that a particular means, which might be used to carry out the general direc-

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mechanism, that it should be substantially new in its structure, or mode of operation. Secondly, that the specification should express the mode of constructing, compounding, and using the same, in such full, clear, and exact terms, 'as to enable any person, skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same.' Now, for the latter purpose, a mere artisan, skilled in the art with which it is connected, may, in many cases, be an important and satisfactory witness. If, as a mere artisan, he can, from the description in the specification, so make, construct, compound, and use the same, it would be very cogent evidence of the sufficiency of the specification. Still, it is obvious, that, although a mere artisan, who had no scientific knowledge on the subject, and who was unacquainted with the various mechanical or chemical equivalents employed in such cases, might not be able to make and compound the thing patented, from the specification; yet, a person who was skilled in the very science on which it depended, and with the mechanical and chemical powers and equivalents, might be able to teach and demonstrate to an artisan, how it was to be made or constructed, or compounded or used. *A fortiori*, he would be enabled so to do, if he combined practical skill with a thorough knowledge of the scientific principles on which it depended." It is not quite clear, upon this passage, whether the learned judge did or did not mean to intimate, that a specification would be good, if a scientific witness could teach an artisan how to make, compound, or use the thing patented, although the artisan could not practise the invention without such aid. The sense in which he seems to oppose the word "artisan" to that class of persons who are not practical artisans, but who are "thoroughly conversant with the subject of mechanics, as a science," or are "skilled in the very science on which the invention depends," would seem to imply that an obscurity, or other defect, in a specification, which would embarrass an artisan, may be cured by a scientific person, whose superior knowledge of the principles of the science might be used to teach the workman, from the specification; if so, this is not the standard which the same learned judge adopted on other occasions. In Lowell *v.* Lewis, 1 Mas. 190, he instructed the jury, that the question was, whether the specification was so clear and full, that *a pump-maker of ordinary skill* could, from the terms of the specification, construct a pump on the plan described. Perhaps, however, in the more recent case, he intended only to draw a distinction between mere mechanics, or laborers, in a particular art, manufacture, or trade, and persons conversant with the science on which it depends; and to say, that the latter are competent, and often the most satis-

tions of a specification, would succeed, without showing that that means had actually been tried and had succeeded.[1]

§ 368. Whether there is a class of inventions, addressed so entirely to scientific witnesses as to render their knowledge and skill requisite, in the practical application of the directions, so that there cannot be said to be any recognized class of artisans, to whose capacity the directions can be referred, is another question. This must depend on the nature of the invention.

§ 369. Before it can be determined, in any case, what class of persons are to be taken as those, whose ability to apply the directions furnishes the standard of the sufficiency of the specification, it must first be ascertained to what class of persons the specification is presumed to be addressed, as being those who are to carry out the directions. If the inquiry arose after the patent had expired, this class of persons would, in most cases, be readily ascertained, by observing what persons applied themselves to the practice of the invention. But it actually arises before the patent has expired, and before its dedication to the public enables us to see what persons will undertake to practise the invention. That state of things must, therefore, be anticipated, so far as to ascertain what persons will undertake practically to carry out the

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factory witnesses, which is certainly obvious. It is scarcely to be presumed, that he meant to say that, where the description in a patent is of a thing, which a particular class of mechanics would be employed to make, the specification would be sufficient, although it could not be carried out by a workman of that class, having ordinary skill, provided it could be understood by a "person thoroughly conversant with the subject of mechanics, as a science." This, as a general proposition, would confine the practice of many inventions, after the patent had expired, to the latter class of persons, which the Patent Law does not intend.

[1] Neilson v. Harford, Webs. Pat. Cas. 295, 315, 316.

directions of the patent, for the purpose for which the invention is designed. The standard, therefore, will vary greatly, according to the nature of the invention. In some cases, the persons who will undertake to practise it will be very numerous, in others, very limited, in point of numbers. In some cases, the qualifications will be very moderate; in others, a very high state of accomplishment, skill, and knowledge, will be requisite. The nature and object of the invention must be resorted to, to see to what persons the specification is to be presumed to be addressed. If it be a machine destined to a particular use, the workmen whose vocation it is to make similar machines, for similar purposes, will be the persons who would be called upon to make the machine after the patent has expired. If it be a composition of matter, involving the knowledge of practical chemists, such persons will attempt to practise the invention, when they are at liberty to do so. If it be a manufacture of an improved character, the persons whose business it has been to make the old article, will be the persons who will make the new one. In all these and similar cases, where there is a class of workmen who are habituated to the practical exercise of the art or science under which the patented invention falls, the specification is to be presumed to be addressed to them; and, although scientific witnesses may be examined, as to the clearness and fulness of the specification, its sufficiency must be referred to the ability of competent practical workmen, of ordinary skill, to understand and apply it. This limitation of the evidence follows, necessarily, from the principle that the specification cannot be supported by the fresh invention and correction of a scientific person. The ordinary knowledge and skill of practical workmen being the standard, where the specification is for the benefit of a particular trade, the evidence cannot be carried so far as to include the degree of skill and knowledge possessed by a scientific person, who could, on a mere hint, invent the thing proposed to be accomplished; although such a witness may be asked, whether a

competent workman could attain the object of the patent, by following out the directions.[1]

§ 370. But if the invention be of a character entirely novel, embodying an effect never before produced, and which it is not within the province of any particular class of workmen to produce, but which it belongs rather to the province of men possessed of some science to apply, by directing the labors of common artisans, upon principles which such artisans do not commonly understand or undertake to use, then the specification may be presumed to be addressed to men capable of applying those principles, and not to mere artisans, who have previously been employed in the construction of things of the same class which it is the object of the invention to supersede. Thus, in the case of an invention, which consisted in an improvement on paddle-wheels for propelling vessels, by a mode of constructing them, so that the floats might enter and quit the water at any required angle, the specification would be addressed to engineers capable of determining what angle was required, and it ought to furnish the rules by which such persons could ascertain the angle, and the mechanical means by which it could be applied in practice.[2] The understanding of such a specification would be somewhat above the range of acquirements belonging to mechanics employed in the manual labor of constructing the machinery: that is to say, the specification would be addressed to competent engineers, of ordinary skill in that profession.[3]

§ 371. But it should be remembered, that, whenever, in a case of this kind, as in all other cases, the persons to whom the specification is to be presumed to be addressed, have

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[1] Morgan *v.* Seaward, Webs. Pat. Cas. 174; Neilson *v.* Harford, Ibid. 371; The Houschill Co. *v.* Neilson, Ibid. 692.

[2] Morgan *v.* Seaward, Webs. Pat. Cas. 170; *Ante*, p. 409 *et seq.*

[3] Ibid.

been ascertained, a rule becomes applicable, which defines the nature and scope of the evidence that may be offered, to explain the specification. This rule is, that the patentee must not, in framing his specification, call upon the persons to whom it is addressed, to exercise more than the actual existing knowledge common to their trade or profession. He has a right to exhaust this knowledge; but if, in order to apply his directions, the members of the trade or profession are required to tax their ingenuity or invention, so that, beyond the exercise of ordinary and competent skill, they would have to solve a problem, or supply something, in the process, by the exercise of the inventive faculty, the specification would be bad.[1]

§ 372. II. *As to the Infringement.* Upon the question of infringement, the point to be determined is, whether the thing made or used by the defendant is, in the sense of the Patent Law, identical with the invention of the patentee. This is the same question as that which arises on the issues of novelty, when it is necessary to determine whether the invention of the patentee is the same as some former thing, or different, and therefore entitled to be regarded as a novelty. We may, therefore, here consider the principles of evidence applicable to the inquiry, whether two things are identical in the sense of the Patent Law.

§ 373. It is obvious that there may be two kinds of evidence applicable to this issue, both of which may be drawn from experts. Whether one thing is like another, is a matter of judgment, to be determined on the evidence of our own senses, or the senses of others. If we rely on the senses of others, the sole testimony which they can bear, is, either as to the matters of fact which constitute the precise differences or resemblances between the two things, or as to matter of

[1] Ibid.

opinion, by which they infer that these differences or resemblances do, or do not affect the question of the substantial identity of the two things. Both of these kinds of evidence, however, run so nearly into each other, and the boundaries between them are often so shadowy, that it is sometimes difficult to draw the line between fact and opinion. The actual differences or resemblances between two things are *primâ facie* matters of fact, to be observed by the senses; but, with the act of observing these differences or resemblances, we blend the process of reasoning, by which we determine, for our own satisfaction, what is a real, and what only an apparent difference or resemblance; what constitutes a difference or resemblance, in point of principle; and the result of this process, expressed in the conclusion, that the two things are or are not identical, is matter of opinion. Between these two branches of evidence, it is exceedingly difficult to draw the line, so as to define the true office of an expert, and to admit all proper evidence of facts and opinions, without leaving to the witness the whole determination of the issue.[1]

§ 374. At the same time, it is certain that a boundary exists somewhere. The question whether two things are identical, in the sense of the Patent Law, is a mixed question of law and fact; and when it is submitted to a jury, it is for the Court to instruct them, after the actual differences or resemblances are ascertained, what constitutes, in point of law,

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[1] In Dixon *v.* Moyer, 4 Wash. 68, 71, Mr. Justice Washington said: "In actions of this kind, persons acquainted with the particular art to which the controversy relates, are usually examined, for the purpose of pointing out and explaining to the jury the points of resemblance, or of difference, between the thing patented and that which is the alleged cause of the controversy; and the opinions of such witnesses, in relation to the materiality of apparent differences, are always entitled to great respect. But, after all, the jury must judge for themselves, as well upon the information so given to them, as upon their own view, where the articles, or models of them, are brought into court."

a difference or identity.[1] There is, therefore, a most important function to be discharged, if one may so say, by the law itself; for it has to determine, upon all the facts open to the observation of the senses, whether guided by the superior facility for observation enjoyed by experts, or not so assisted, whether, in the sense of the law, there is an identity or a difference. This function is always in danger of being encroached upon, by a loose mode of receiving the testimony of experts, by whom the whole question is often in reality left to be decided.

§ 375. The testimony of persons skilled in the particular subject is undoubtedly admissible, for two purposes; *first*, to point out and explain the points of actual resemblance or differences; *secondly*, to state, as matter of opinion, whether these resemblances or differences are material; whether they are important or unimportant; whether the changes introduced are merely the substitution of one mechanical or chemical equivalent for another, or whether they constitute a real change of structure or composition, affecting the substance of the invention. But when these facts and opinions have been ascertained, the judgment of the jury is to be exercised, upon the whole of the evidence, under the instructions of the Court, as to what constitutes such a change as will, in point of law, amount to a fresh invention, and, therefore, will not be an infringement.[2]

§ 376. The duty of giving this instruction should not be

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[1] Barrett *v.* Hall, 1 Mas. 447, 470, 471, 472.

[2] In Allen *v.* Blunt, 3 Story's R. 742, 748, 749, Mr. Justice Story, discussing the relative value of scientific witnesses and mere artisans, said: "The very highest witnesses to ascertain and verify the novelty of an invention, and the novelty or diversity of mechanical apparatus and contrivances, and equivalents, are, beyond all question, all other circumstances being equal, scientific mechanics; they are far the most important and useful to guide the judgment, and *to enable the jury to draw a safe conclusion, whether the modes of operation are new or old, identical or diverse.*"

surrendered by the Court. A scientific witness may be asked, for instance, whether, in his opinion, a particular machine is substantially new in its structure, or mode of operation, or whether it is substantially the same thing as another, with only apparent differences of form and structure. But when the differences or resemblances have been pointed out, and when the view that science takes of their relative importance has been ascertained; when the fact appears, of whether a particular change is or is not regarded by mechanicians as the substitution of one mechanical equivalent for another, the Court must instruct the jury, whether the particular change amounts, in point of law, to a change of what is commonly called the principle of the machine. This is a question wholly aside from the function of a witness. The most skilful and scientific mechanician in the world can only say what, in his opinion, are the differences or resemblances between one machine and another, and how far they are regarded by mechanicians as material or substantial. But the question of what constitutes a fresh invention, or what, upon a given state of facts, amounts to a change so great as to support an independent patent for a new thing, is a question of law; and this question is involved in every issue as to the identity of two things, whether it relates to the question of infringement or of prior invention.[1]

* § 377. The evidence for the defendant, upon the question of novelty, will, of course, consist of proof, positive in its nature, that the thing patented existed before; and, if any credible evidence of this is adduced, it will outweigh all the negative evidence that can be offered by the plaintiff.[2] But, whenever the defendant relies on the fact of a previous invention, know-

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[1] See the instructions of the Court in Walton *v.* Potter, Webs. Pat. Cas. 585, 586, 587, 589, 591; Huddart *v.* Grimshaw, *Ibid.* 85, 86, 91, 92, 95. See also the examination of certain experts in Russell *v.* Cowley, *Ibid.* 462, before Lord Lyndhurst, in the Exchequer, cited *ante.*

[2] Manton *v.* Manton, Dav. Pat. Cas. 250.

ledge, or use of the thing patented, he must give notice of the names and places of residence of the persons who, he intends to prove, have possessed a prior knowledge, or had a prior use of it.[1]

§ 378. Persons who have used the machine patented, are not thereby rendered incompetent, as witnesses, on account of interest.[2] It has been held, that a witness, who was patentee in another patent, and had sold to the defendant the right to use the machine, the use of which was complained of as an infringement, was a competent witness; since any verdict that the plaintiff might recover could not be given in evidence by the plaintiff, in an action against the witness.[3] A patentee, who has assigned the whole of his interest in the patent, is a competent witness for the assignee in support of it.[4] A licensee is a competent witness for the patent, in an action for an infringement; for he has no direct pecuniary interest in supporting the patent, but it may be for his advantage that it should not be supported.[5] Evidence, on the part of the plaintiff, that the persons, of whose prior use of a patented machine the defendant had given evidence, had paid the plaintiff for licenses, ought not to be absolutely rejected, though entitled to very little weight.[6]

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1 As to the evidence appropriate to the different defences to an action, see *ante*, in the chapter on Actions at Law.

2 Evans *v.* Eaton, 7 Wheat. 356; Evans *v.* Hettich, *Ibid.* 453; 2 Greenl. on Evid. § 508.

3 Treadwell *v.* Bladen, 4 Wash. 704.

4 Bloxam *v.* Elsee, 1 C. & P. 563.

5 Derosne *v.* Fairie, Webs. Pat. Cas. 154.

6 Evans *v.* Eaton, 3 Wheat. 454.

CHAPTER V.

QUESTIONS OF LAW AND QUESTIONS OF FACT.

§ 379. The several provinces of the Court and the jury, in the trial of patent causes, have already been incidentally alluded to, but it may be proper to give here a summary of the principal questions which constitute matters of fact and matters of law.

§ 380. The question of *novelty* is a question of fact for the jury. It embraces the two questions, of whether the plaintiff, or patentee, was the inventor of the thing patented, and whether the thing patented is substantially different from any thing before known. These are questions of fact for the jury, upon the evidence.[1] But it is for the Court to instruct the jury what constitutes novelty, in the sense of the Patent Law, as well as what amounts to a sufficiency of invention to support a patent. So, also, the question of prior public use is a question of fact.[2]

§ 381. The question, whether the renewed patent is for the same invention as the original patent, is also a question of fact for the jury;[3] as is likewise the question, whether the invention has been abandoned to the public.[4]

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[1] Whittemore *v.* Cutter, 1 Gallis. 478: Lowell *v.* Lewis, 1 Mas.; Carver *v.* Braintree Manuf. Co. 2 Story's R. 432, 441.

[2] *Ante*, § 53, note 3.

[3] Carver *v.* Braintree Manuf. Co. 2 Story's R. 432, 441.

[4] *Ante*, § 57, note 2.

§ 382. The question of *utility* is a question of fact, under some circumstances, and, under other circumstances, it may be for the Court, without referring it to the jury, to pronounce the patent void. We have seen that a "useful invention," in the sense of our law, is one not injurious or mischievous to society, and not frivolous or insignificant, but capable of use, for a purpose from which some advantage can be derived; and that, when an invention is useful in this sense, the degree or extent of its usefulness is wholly unimportant. There are, therefore, two modes, in which the utility of an invention may be impeached; first, when it appears, on the face of the letters-patent and specification, that the invention is injurious to the morals or health of society; secondly, when it appears, on the evidence, that the thing invented, although its object may be innocent or useful, is not capable of being used to effect the object proposed.

§ 383. The question, whether the invention is useful, in the first sense, is a question whether the patent is void, on the face of it, as being against public policy; or, in other words, because the subject-matter disclosed by the patent is not a patentable subject. This is a question of law for the Court.[1] But when it does not appear that the invention has any noxious or mischievous tendency, but, on the contrary, that its object is innocent or salutary, there may be a farther question, whether the means, by which the inventor professes to accomplish that object, will, in practice, succeed or fail. It is not essential to the validity of a patent, that the success of the means made use of should be complete, or that the thing invented should supersede any thing else used for the same purpose; because the law looks only to the fact that the invention is capable of some use. Thus,

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[1] Langdon v. De Groot, Paine's C. C. R. 203; Lowell v. Lewis, 1 Mason, 182; Phillips on Patents, p. 432.

if a machine is useful for some of the cases for which it is intended, although cases may occur in which it does not answer, it is still useful, in this sense of the Patent Law;[1] but if any thing claimed as an essential part of the invention is useless altogether, the patent is invalid, because there is a total failure in point of usefulness.[2] These questions, whether the invention is capable of use, for the purpose for which it is claimed, and whether any thing claimed as essential is entirely useless, depend upon evidence, and are questions of fact for the jury.[3]

§ 384. In like manner, the question whether an invention is frivolous or insignificant, is a question of law. If the object proposed to be accomplished is a frivolous or insignificant object, from which no advantage can be derived to the public, it is for the Court to pronounce the patent void, as not being for a patentable subject. But if the object proposed is not clearly frivolous and unimportant, but the means by which it is proposed to be accomplished do not succeed in producing the result, the question returns to the usefulness of the means, and this again becomes a question of fact for the jury.

§ 385. The construction of the specification, as to the extent of the claim, belongs to the province of the Court. The Court must determine, upon the whole instrument, what the claim actually covers, and whether the patent is valid in point of law. The jury are, therefore, to take the construction of the patent, as to the extent of the claim, from the Court, and to determine whether any thing that is included in the claim is not new. But if the specification

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[1] Haworth *v.* Hardcastle, Webs. Pat. Cas. 480.

[2] Lewis *v.* Marling, Webs. Pat. Cas. 490, 495.

[3] Haworth *v.* Hardcastle, *ut supra;* Lewis *v.* Marling, *ut supra;* Hill *v.* Thompson, 3 Meriv. 630, 632; Lowell *v.* Lewis, 1 Mason, 182; Bedford *v.* Hunt, Ibid. 302.

contains terms of art, which require explanation, by means of evidence, it is for the jury to find the meaning of those terms.[1]

§ 386. And, here, it is very important to ascertain whether there are any principles, which are to guide the Court in construing patents, peculiar to these instruments, or whether they are to be construed, in all respects, like other written instruments, and without the aid of extrinsic evidence. In one sense, a patent is a deed, being a grant of the government, under seal; the letters-patent, the specification, and the drawings annexed, being taken together as one instrument. But it often happens, that the extent of the claim is not manifest on the face of the specification itself. The question arises, therefore, how is the Court to ascertain the precise extent of the claim, as matter of law? The specification is a written instrument, in which the patentee has undertaken to state the invention which he professes to have made, and for which he has obtained letters-patent. In determining the real extent of the claim thus made, it is obvious, that the actual invention of the party is a necessary auxiliary to the construction of the language which he has employed in describing it. The thing of which the patentee was the real inventor, is what he was entitled to claim, and the question, in all cases requiring construction, will be, whether he has claimed more or less than that thing, or exactly what that thing is. If he has claimed more than his actual invention, that is, more than that of which he was an original and the first inventor, his claim is inoperative, under our law, *pro tanto*. If he has claimed less, his exclusive right is restricted to what he has claimed. If he has claimed the just extent of his actual invention, he is entitled to hold it, in all its length and breadth.

§ 387. There are two sources to which the Court is enti-

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[1] *Ante*, § 123, 124.

tled to resort, in construing a claim. In the first place, resort may be had to the descriptive parts of the specification, where the patentee has undertaken to state what his invention is; in other words, the Court is to inquire what the patentee has said that he had invented. If his statement or description of the invention is clear and explicit, then the language in which he has made his claim, which is generally to be found in a summary statement of the subject-matter for which he asks a patent, may and should be construed so as to include the actual invention previously set forth, if it can be so construed without violation of principle;[1] for the general maxim, under which the construction is to be pursued, is, according to the spirit of the modern authorities, *ut res magis valeat quam pereat.*

§ 388. But it may be uncertain, upon the terms of the descriptive parts of the specification, if unaided by evidence, what the precise extent of the invention was; and this may happen, without that degree and kind of ambiguity which renders a patent void for uncertainty, or because the directions could not be carried out by a competent workman. For instance, the patentee may state that he employs something which turns out not to be new; and the question will then be, whether he has so described that thing as to claim it as part of his invention;—or his invention may be so stated,

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[1] See Russell *v.* Cowley, Webs. Pat. Cas. 469, 470; Davoll *v.* Brown, 1 Woodbury & M. 53, 59. Where the construction depends, as it generally does, in the first instance, on the terms of the specification, the preamble may sometimes be resorted to. Winans *v.* Boston & Providence Railroad, 2 Story's R. 412. Sometimes the body of the specification. Russell *v.* Cowley, *ut supra*, 459, 463. Sometimes the summing up. Moody *v.* Fiske, 2 Mason, 112, 118. Generally, the whole is examined together, unless the summary seems explicitly to exclude the rest of the specification, and to require a construction by itself alone. McFarlane *v.* Price, Webs. Pat. Cas. 74; 1 Starkie, 199; The King *v.* Cutler, Webs. 76, note; 1 Starkie, 354; Ames *v.* Howard, 1 Sumner, 482, 485. See Davoll *v.* Brown, *ut supra.*

as to render it doubtful, whether he has invented or discovered the general application of a principle to produce a particular effect, and is, therefore, entitled to claim all the forms in which the same principle can be applied to produce the same effect, or, whether he has only invented or discovered a form of giving effect to a principle, the application of which was known before. So, too, on the general description of a machine, or a manufacture, which, as a whole, may be new, it may be uncertain, whether the party invented the various parts of which that whole is composed, or only invented the combined whole, as he has produced it; and, if the latter, whether he invented the whole, as it may embrace all the forms and dimensions in which that whole can be produced, or, whether his claim is to be confined to certain forms and dimensions, there being other wholes, of the same general character, of other forms and dimensions, which it does not include.

§ 389. In such cases, the character and scope of the invention can only be ascertained, by attending to what the evidence shows is new or old; to the state of the art; to the fact of whether the principle, which the patentee has employed, had been discovered and applied before, and, therefore, that he could have invented only a new form of the application, or, whether he has invented the application of the principle itself, and, consequently, is entitled, if he has not restricted himself, to claim the same application of the same principle, under other forms or dimensions, or by other means, than those which he has specifically described. The question, whether he has limited himself to particular forms, dimensions, or methods, necessarily involves an inquiry into the substance and essence of his invention. In other words, before it can be ascertained, in doubtful cases, what he has claimed, some attention must be paid to his actual invention, as ascertained on the evidence.

§ 390. To what extent, then, is the Court entitled to receive

evidence of the actual invention, and how is that evidence to be applied to the construction of the claim? In the progress of a *nisi prius* trial, the state of the art, the surrounding circumstances in which the inventor was placed, the previous existence of some things mentioned or referred to in the patent, will all be likely to be developed on the evidence; and these facts may materially affect the construction to be given to the claim. It has been said, and with great propriety, that, in the exercise of the duty of determining what the claim is, in point of law, the judge must gather as he goes along; informing himself upon the evidence, and observing what facts are controverted, and what facts are not controverted, which bear upon the meaning of the claim, in reference to its extent.[1] If the facts material to the construction are not left in doubt on the evidence, the construction will be given to the jury, absolutely; but, if the evidence requires a finding of facts by the jury, the construction will be given to them conditionally.[2]

§ 391. Among the facts which will thus exercise an important influence on the extent of the claim, is the previous existence of something mentioned in the specification. If it is manifest, on the face of the terms in which the patentee has described his invention, that he has included something of which he was not the inventor, his patent cannot be allowed to cover it. But it may be doubtful, whether he has so included the thing, which the evidence shows to be old; and then the degree or extent to which that thing was known before, its great familiarity and constant use for analogous purposes, will be important elements in the question, whether the patentee has claimed it as of his own invention. This consideration has given rise to the rule, that the patentee is to be presumed not to intend to claim things which he must

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[1] Per Lord Abinger, C. B., in Neilson *v.* Harford, Webs. Pat. Cas. 350, 351.

[2] Ibid. p. 370.

know to be in use; which is only another application of the broader rule, that a specification should be so read, as, consistently with the fair import of language, will make the claim coextensive with the actual discovery or invention.[1]

§ 392. Another important consideration will be the state of the art. If, for instance, a patent contemplates the use of certain substances, although it may make use of terms extensive enough to embrace other substances, which, in the progress of the art, have been ascertained to be capable of the same use, but, at the time of the patent, were not known to be so, or, being known at the time to be capable of the same use, were yet so expensive as not to be expected to be in use for the same purpose, the general terms of the specification will be so interpreted as to include only those substances *ejusdem generis* with the particular substances mentioned, which may reasonably be supposed, on the state of the art, to have been contemplated at the time. This is to be ascertained by evidence.

§ 393. Thus, on a specification describing "An improved gas apparatus, for the purposes of extracting inflammable gas by heat, from pit coal, or tar, *or any other substance* from which gas, or gases, capable of being employed for illumination, can be extracted by heat;" it appeared that it was known, at the date of the patent, as a philosophical fact, that oil would yield inflammable gas, but that the apparatus described in the specification, could not be used advantageously, if at all, for the making of gas from oil; it was answered, that it was a general opinion at the time, that nothing but coal would be cheap enough for purposes of illumination; and the Court held, that the patentee must be understood to mean things that were in use, and not every thing which would produce gas, but, from being so expensive, was never expected to be in use.[2]

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1 Haworth *v.* Hardcastle, Webs. Pat. Cas. 484, 485.

2 Crossley *v.* Beverley, Webs. Pat. Cas. 106, 107, 108.

§ 394. Sometimes, the construction may rest on facts, which are so referred to as to make part of the description and to govern it. If these facts are controverted, they are to be left to the jury. But if they are proved, or admitted, the Court will take notice of them, in giving a legal construction to the instrument. Thus, where the question was, whether, in the specification of an improvement in the machine, known by the name of speeder, double speeder, or fly-frame, used for roving cotton, preparatory to spinning, the patentee had confined himself to the use of the bow-flyer, that is, a flyer in "one continuous piece," as part of his new combination; it appeared that the specification thus described the invention: "It will be seen that the flyers, as used by me, and shown at, &c., *are made in one continuous piece, instead of being open at the bottom, as is the case with those generally used in the English fly-frame*, and this, among other reasons, enables me to give the increased velocity above referred to." The patentee then summed up his claim as follows: "What I claim as new, &c., is the arrangement of the spindles and flyers, in two rows, *in combination with the described arrangement of gearing*," which he had previously pointed out. Although the language here did not admit of much doubt, as to the kind of flyer intended to be claimed, the Court took notice of the admitted or apparent facts, which tended to show that the bow-flyer alone was intended; one of which was, that the bow-flyer alone could be geared, as the patentee had described his flyer to be, in two places, through its bottom; the other form of the open-flyer having no bottom susceptible of being used or geared in that manner.[1]

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[1] Davoll *v.* Brown, 1 Wood. & M. 53, 58, 59, 60. In this case, Mr. Justice Woodbury said: "The construction seldom rests on facts to be proved by parol, unless they are so referred to as to make a part of the description and to govern it; and when it does at all depend on them, and they are proved or admitted, and are without dispute, as here, it is the duty of the Court, on these facts, to give the legal construction to the instrument. But, whether the Court gave the right construction to the patent in dispute, so far as regards the kind of flyer to be used in it, is a proper question for

§ 395. The sufficiency of the description, to enable competent persons to apply the invention, is a question of fact for

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consideration now; and, if any mistake has occurred in relation to it, in the hurry and suddenness of a trial, it ought to be corrected, and will be most cheerfully. There is no doubt, as to the general principle contended for by the defendant in this case, that a patentee should describe, with reasonable certainty, his invention. Several reasons exist for this. One is, the Act of Congress itself requires, that he 'shall, particularly specify and point the part, improvement, or combination, which he claims as his own invention.' And another is, that, unless this is done, the public are unable to know whether they violate the patent or not, and are also unable, when the term expires, to make machines correctly, and derive the proper advantages from the patent. These principles, however, are not inconsistent with another one, equally well settled, which is, that a liberal construction is to be given to a patent, and inventors sustained, if practicable, without a departure from sound principles. Only thus can ingenuity and perseverance be encouraged to exert themselves, in this way, usefully to the community; and only in this way can we protect intellectual property, the labors of the mind, productions and interests, as much a man's own, and as much the fruit of his honest industry, as the wheat he cultivates, or the flocks he rears. Grant *v.* Raymond, 6 Peters, 218; See also Ames *v.* Howard, 1 Sumn. 482, 485; Wyeth *v.* Stone, 1 Story, 273, 287; Blanchard *v.* Sprague, 2 Story, 164. — The patent laws are not now made to encourage monopolies of what before belonged to others, or to the public, — which is the true idea of a monopoly, — but the design is to encourage genius in advancing the arts, through science and ingenuity, by protecting its productions of what did not before exist, and of what never belonged to another person or the public. — In this case, therefore, the jury were instructed to consider the case under these liberal views, unless the invention, such as the Court construed it to be, in point of law, was described with so much clearness and certainty, that other machines could readily be made from it, by mechanics acquainted with the subject.

Looking to the whole specification and drawing, both the figure and language, could any one doubt that bow-flyers were intended to be used in the new combination which was patented? The figure is only that of a bow-flyer, so is the language. First, the spindles are described as working up and down 'through the bottom of the flyers, as seen at *a*,' which is not possible in the case of the open-flyer, as that has no bottom for the spindle to work in.

Again, the specification says, 'to the bottom of each flyer a tube is attached, as seen at *b*, figures 1 and 2,' which is impracticable with an open

the jury, on the testimony of experts and the language itself.[1] But it does not follow from this, that the construction of the

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flyer. Again, it says, motion is communicated to the flyer independently, but that is not feasible with the open flyer. And finally, towards the close, in order to remove all possible doubt, the specification adds, 'it will be seen that the flyers, as used by me, and shown at *ii* and *kk*, are made in *one continuous piece*, instead of being open at the bottom, as is the case with those generally used in the English fly-frames.' All know, that the flyer in one continuous piece is the bow-flyer. Besides this, other admitted or apparent facts tended to show that the bow-flyer alone was intended. One great advantage, claimed from the new combination in the patent, was an increased velocity of the spindle. Thus, in the early part of the specification, it is stated, among the advantages of his improvement, that 'the machine will bear running at a much higher velocity than the English fly-frame.' And, towards the close, he says, that it is the use of the flyer in 'one continuous piece,' that is, the bow-flyer, instead of the open one, as in the English fly-frame, which, 'among other reasons, enables me to give the increased velocity above referred to.' How could there, then, be any reasonable doubt, that, in his patent, it was this bow-flyer he intended to use in his new combination?

In truth, he not only says so, and could not otherwise obtain one of his principal objects and advantages, but it is manifest from the form of the flyer itself, and was not doubted at the trial, that only the bow-flyer could be geared, as he described his flyer to be, in two places, through its bottom; the other form of the open flyer confessedly having no bottom susceptible of being used, or geared in this manner. . . . . There was no fact in doubt about this, to be left to the jury; and there was but one construction as to the kind of flyer intended to be used, that was consistent either with the drawings, or the express language employed, or the chief object of the machine in its increased velocity, or in the practicability of gearing it in the manner before described by him in two important particulars, or of giving motion to it 'independently.' It is as clear and decisive on this point as if he had said *the before described* spindles and flyers, because he says the spindles and flyers 'with the described arrangement of the gearing,' and no other spindles or flyers but the short spindles and bow-flyers could be geared in the manner before described, through the bottoms of the latter.

Matters like these must be received in a practical manner, and not decided on mere metaphysical distinctions. Crossley *v.* Beverley, 3 Car. & Payne, 513, 514.

[1] Lowell *v.* Lewis, 1 Mason, 190, 191.

specification is to be drawn into the province of the jury. Their province is, after having been informed what the specification has said, to determine whether the directions are sufficiently clear and explicit to enable a competent workman to practise the invention. The information of what the specification has said, is to come from the Court; although it may happen, that, in determining the meaning of the specification, the aid of the jury will be required to ascertain the meaning of words of art, or the surrounding circumstances which govern that meaning. When such words of art, or such surrounding circumstances, do affect the meaning, the Court will instruct the jury that the specification has said so and so, according as they find the meaning of the scientific terms, or the existence of the surrounding circumstances. But if there are no words of art, and no surrounding circumstances, to be ascertained, the Court, as we have seen, will instruct the jury what the specification has said; and then the jury will determine, the specification having said so and so, whether the description is sufficient to enable a competent workman to put the invention in practice.[1]

§ 396. There is no positive rule by which it can be determined, in a given case, *a priori*, whether the meaning of

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Taking with us, also, the settled rules, that specifications must be sustained if they can be fairly, (Russell *v.* Cowley, 1 Cromp. Mees. & Rosc. 864, 866; Wyeth *v.* Stone, 1 Story, 273, 287,) that we should not be astute to avoid inventions, and that it is a question for the Court, and not the jury, whether the specification can be read and construed intelligibly in a particular way, (Whitney *v.* Emmett, Baldw. 303, 315; Blanchard *v.* Sprague, 2 Story, 164, 169,) we think the instructions given at the trial in this case were correct, and that no sufficient ground has been shown for a new trial."

[1] It follows, from the proposition that the Court are to declare what the specification has said, that it is also a question of law, upon the construction of the specification, whether the invention has been specifically described with reasonable certainty. This is a distinct question from the intelligibility of the practical directions, although both may arise upon the same passages. *Ante*, §§ 123, 124, 126, note 2; 130, 134, note 3; 136, note 1, 2.

words of art, or the bearing of surrounding circumstances, affects the sense of the specification; or which limits the right of the plaintiff to offer evidence to show that its meaning is so affected. The plaintiff is always entitled to say, that his specification requires the explanation of facts, to determine the extent of his claim and the character of his invention; and the only course that can be taken is, for the Court to receive and watch the evidence, and to apply it to the construction, taking care that it be not allowed to go so far as to supply positive omissions, which would render the specification defective. Within this limit, the construction, which is nothing more than the ascertaining of the meaning of what is written, may always be affected by evidence; which is to be taken into view, although no conflict arises, requiring a finding of the jury, because the Court can have no judicial knowledge either of the terms of art, or of the surrounding circumstances, and cannot say, until it has heard the evidence, that the meaning is not to be affected by them.

§ 396 *a*. In some cases, too, although the construction of the claim is for the Court, the application of the claim may be a question for the jury. As, where a claim does not point out and designate the particular elements which compose a combination, but only declares, as it properly may, that the combination is made up of so much of the described machinery as affects a particular result, it is a question of fact, which of the described parts are essential to produce that result; and, to this extent, it is to be left to the jury to say, upon the evidence of experts, or an inspection of the two machines, or both, what parts described, in point of fact, enter into and constitute the combination claimed.[1]

§ 397. The provinces of the Court and the jury, then, are distinct, and, upon this particular question of the practica-

[1] Silsby *v.* Foote, 14 Howard, 218.

bility of the specification, it is of consequence that they should not be confounded. When it is put to a jury to determine, whether a specification has so fully and accurately described the invention, that others can practise it from the description, the danger sometimes arises, of their undertaking to determine what the claim is; because the extent and character of the claim itself may depend on the same words, on which they are to decide the intelligibility of the directions, and may thus seem to be inseparably blended with the question of that intelligibility. But, in truth, these questions are always separable, and care should be taken to separate them. In one aspect, every thing is for the jury, which bears on the question, whether the specification sufficiently describes the mode of carrying the invention into effect; but, on the other hand, the meaning of the very passages on which this question arises, in relation to the prior question of what the specification has said, is for the Court, after the facts which bear upon that meaning have been ascertained.

§ 398. The case of Neilson *v.* Harford presents an apt illustration of the nicety and importance of these distinctions. Mr. Neilson invented the application of the hot blast to smelting furnaces, by introducing, between the blowing apparatus and the furnace, a chamber or receptacle, in which the air was to be heated on its passage, before it entered the furnace. After describing the mode in which this was to be accomplished, his specification said, "The form or shape of the vessel or receptacle [the vessel in which the air was to be heated] is immaterial to the *effect*, and may be adapted to the local circumstances or situation." This direction, it was contended, was calculated to mislead a workman, because it was not true; it was said, in point of fact, that the size or shape of the heating vessel was immaterial to the "effect" on the air in the vessel; and this, it was argued, was the "effect" concerning which this delusive statement was made in the specification. On the other hand, the plaintiff contended that the meaning of this passage was, that the size

and shape of the heating vessel were immaterial to the effect *on the furnace*, and that it was true, in point of fact, that some beneficial effect might be produced on the furnace, whatever the size or shape of the heating vessel might be, provided the temperature of the air be sufficiently raised.

§ 399. The principal question raised upon the pleadings was, whether the directions were calculated to mislead a workman who might be employed to construct such an apparatus, by stating that which was not true. This, it was allowed, was a question for the jury, but, before it could be determined, it was necessary to ascertain what the specification had said; since the fact of its having or not having stated what was not true, would depend altogether upon the sense in which the words were to be received. At the trial, the presiding judge construed the word "effect" to mean the effect on the air in the heating vessel; and, the jury having found that the size and shape of the heating vessel were material to the extent of beneficial effect produced, a verdict was entered for the defendants.

§ 400. Upon a motion to enter the verdict for the plaintiff, on this issue, founded on the special verdict, which also ascertained that some beneficial result would be produced from any shape of the heating vessel, it was argued, with great force and ingenuity, that, the question being whether the specification could or could not be carried into effect, which is confessedly a question for the jury, the whole question of the meaning of the passages on which they were to decide the sufficiency of the specification, was also for the jury, who were to say, whether the words were or were not sufficient for carrying into practical effect the invention or discovery, which the patentee supposed he had made. It was further argued, that the meaning of the words depended upon evidence; whereas, if the Court were to pass upon the meaning of the paper, they must act upon the written paper alone, without evidence. But the Court laid down the doctrine

that, in all cases, the meaning of the specification is for the Court; and, although the question which goes to the jury is, whether the directions in the specification are sufficient or not, it is necessary for the Court to declare what the specification has said. This must be done, either by taking into view, at the time, the evidence which bears upon the meaning, where it is not controverted, or by leaving to the jury, as matters of fact, to pass upon that evidence, in order to ascertain the meaning of scientific words, or the surrounding circumstances on which the construction depends. In the one case, the construction is given absolutely; in the other, it is given conditionally, because dependent upon facts to be found by the jury.[1]

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[1] Neilson *v.* Harford, Webs. Pat. Cas. 295, 349. Sir W. Follett argued as follows: "I submit to your lordships that the whole question upon the validity of the specification, that is, on the meaning of the specification, and whether it can or cannot be carried into effect, is a question for the jury, and not for the Court, and that the jury are to put their construction upon the meaning of the words, and that the jury are to say whether the words are or not sufficient, and that it is for them to say, whether the specification does sufficiently show the mode of carrying the invention and discovery which the patentee supposed he had made, into practical effect. [Lord Abinger, C. B.: Why is the specification, which is a written instrument, more particularly to be considered by a jury, than any other instrument? The meaning of scientific words must be matter of evidence.] [Alderson, B.: The construction of it is surely for the Court.] I do not know quite the extent to which it is supposed the authorities have gone, in stating that certain papers are for the Court. In many cases, undoubtedly, written papers are for the Court, but I apprehend that is by no means a general doctrine of law; but that written papers, which involve a question of fact like this, whether or not the party has sufficiently described the invention, that that written paper is for the jury, and not for the Court, because it is for the jury to say, as a matter of fact, whether there be or not a sufficient description in that instrument to enable parties to carry it into effect. That I apprehend to be a question entirely for the jury. Certainly, the whole of this is a question of evidence, and a question of fact. It is a question of fact as relates to the paper; it is a question of fact as regards the evidence at the trial; it is not a question of law at all; and I do not know any rule which is to say that the Court is to construe that specification, and to take it from the jury, because, supposing the

§ 401. The question, whether the invention disclosed by the specification is a proper subject for a patent, is a question

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fact to be, that evidence was given at the trial on scientific matters, which evidence would aid the meaning or the construing of the instrument, your lordships can have no judicial notice of that at all. If it be a written paper for your lordships to decide upon, it must be without evidence. It is not that your lordships can come to a conclusion upon the meaning of the paper by looking at the evidence at the trial, but, if it comes within the rule, that is, a written paper which the Court is to act upon, then it must act upon the written alone. I think I can show your lordships that, in every single case in which any question has arisen, it has been submitted to the jury, not decided by the Court. [Lord Abinger, C. B.: Not consistently with my recollections; I have always thought that the meaning of the specification was to be determined by the Court. That meaning may be varied by the evidence of particular words. A man must gather as he goes along, in order to construe the written instrument. It is quite new to me that it is not to be considered by the Court.] [Alderson B.; Surely the Court is to tell the jury what the specification has said. If the specification contains words of art, the Court is to say — If you believe these words of art to mean so and so, the specification has said so and so; leaving the question of words of art to the jury. But if there are no words of art, what the specification has said is to be construed by the Court. Then it is to be left to the jury, whether, the specification having so said, it is or not a sufficient description of the invention according to their judgment.] I do not mean the validity of the specification as to questions in which you may direct nonsuits in point of law, arising out of objections of a different kind, but that this question, whether or not the specification sufficiently describes the mode of carrying the invention into effect, that every thing relating to that is for the jury, and not for the Court — the meaning of the passage in the specification, and every thing. I should submit to your lordships that the whole of it was for the jury, and not for the Court. [Alderson, B.: That there are some things in the specification which are questions of fact, is true, and there are some things in the specification which are questions of law; the construction is to be given by the Court, but the intelligibility of it is for the jury.] That is all I am contending. [Lord Abinger, C. B.: The intelligibility means with reference to words of science, or matters in it which persons may explain so as to satisfy the jury. You are discussing an abstract principle where it is not necessary; if you take an abstract principle, I must say the meaning of the specification is a matter of law, and that the judge must be informed, by evidence, of the facts, and then he must leave those facts to the jury, for them to find whether they be true or not.] See also Ante, note.

of law, on which the Court will instruct the jury. It may involve the finding of a variety of facts; but, when the facts are all ascertained, it is purely a question of law, whether the invention or discovery is a patentable subject. This is a distinct and very different question from that of the novelty of the invention. The thing claimed as the subject of a patent may be entirely new, and yet it may not fall within that class of discoveries or inventions, recognized by the Patent Law as the subjects of patents, and, as such, comprehended within the description of the statute. Thus, the subject-matter may turn out to be the application of an old or well-known thing to a new purpose, constituting a new use only so far as the occasion is concerned; which the law decides is not the subject of a patent.[1] Or, on the other hand, the claim may be for the use of a known thing, in a known manner, to produce effects already known, but producing those effects so as to be more economically or beneficially enjoyed by the public; which the law decides is a patentable subject.[2] In these and other cases, where the question arises, upon all the facts attending and surrounding the alleged invention, whether it is a patentable subject, it is for the Court to settle that question. Of course, the novelty of the invention is a prerequisite to the validity of the patent, and this is a question of fact; but, the alleged invention being ascertained to be new, it is still to be determined, whether it is that species of invention to which the law gives the protection of a patent.

§ 402. The question of infringement is, as has already been stated, a question whether the invention of the defendant is substantially the same thing as that of the plaintiff. The identity of two things is a matter of fact, depending upon evidence; and, although it is to be determined under

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[1] Losh v. Hague, Webs. Pat. Cas. 202, 207; Howe v. Abbott, 2 Story's R.
[2] Crane v. Price, Webs. Pat. Cas. 408, 409.

the guidance of those principles which determine what constitutes identity and diversity, in the sense of the Patent Law, yet it is for the jury to determine, as matter of fact, under proper instructions, whether the two things are the same or different.[1]

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[1] Boulton *v.* Bull, 2 H. Bl. 4; Whittemore *v.* Cutter, 1 Gallis. 478; Pennock *v.* Dialogue, 4 Wash. 538; Lowell *v.* Lewis, 1 Mason, 191; Phillips on Patents, 431.

CHAPTER VI.

JURISDICTION OF CONGRESS AND THE FEDERAL COURTS.

§ 403. The Constitution of the United States confers upon Congress power, "to promote the progress of science and useful arts, by securing, for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries." This power is general; there is no distinction which limits it to cases where the invention has not been known or used by the public. Accordingly, it is well settled, that Congress may pass general or special laws, in favor of inventors; and they may leave a particular inventor to the protection afforded by a general law, or they may specially exempt his case from the operation of a general law, by extending his exclusive right beyond the term fixed by such general law. This may be done after the invention has been in the possession of the public, as well as before; for, when the exclusive privilege has once been secured, the grant does not imply an irrevocable contract with the public, that, at the expiration of the period, the invention shall become public property.[1]

§ 404. Congress, therefore, has power to pass an act, which will operate retrospectively, to give a patent for an invention which is already in public use; but no act, it has been said,

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[1] Evans v. Eaton, 3 Wheaton, 545; S. C. Peters's Circ. C. R. 332; Evans v. Hettich, 7 Wheat. 453; Blanchard v. Sprague, 2 Story's R. 164; S. C. 3 Sumner, 535; Woodworth v. Hall, 1 Woodb. & M. 248.

ought to be construed to operate retrospectively, unless such a construction is unavoidable.[1]

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[1] Blanchard *v.* Sprague, *ut supra.* Letters-patent were granted to the plaintiff, Thomas Blanchard, on the 6th of September, 1819; and, being deemed inoperative, by reason of defects in the specification, new letters-patent were granted, on the 20th of January, 1820, for the space of fourteen years. Afterward, by Act of Congress, passed the 30th of June, 1834, the sole right was granted to the plaintiff, to make, use, and vend his invention, for the term of fourteen years from the 12th of January, 1834. This act not being thought to describe, with sufficient accuracy, the letters-patent to which it was intended to refer, an additional act was passed, on the 6th of February, 1839, renewing the Act of the 30th of June, 1834, and correcting the date of the 12th of January, 1834, to the 20th of January, 1834. This last act was as follows: — "*An Act to amend and carry into effect the intention of an Act, entitled an Act to renew the Patent of Thomas Blanchard, approved June 30th*, 1834. Sec. 1. Be it enacted, &c., That the rights secured to Thomas Blanchard, a citizen of the United States, by letters-patent granted on the sixth of September, eighteen hundred and nineteen, and afterwards, on a corrected specification, on the twentieth day of January, Anno Domini eighteen hundred and twenty, be granted to the said Blanchard, his heirs and assigns, for the further term of fourteen years from the twentieth of January, eighteen hundred and thirty-four, said invention, so secured, being described, in said last-mentioned letters, as an engine for turning or cutting irregular forms out of wood, iron, brass, or other material which can be cut by ordinary tools. Provided, that all rights or privileges, heretofore sold or granted by said patentee, to make, construct, use, or vend the said invention, and not forfeited by the purchasers or grantees, shall enure to and be enjoyed by such purchasers or grantees, respectively, as fully, and upon the same conditions, during the period hereby granted, as for the term that did exist when such sale or grant was made. Sec. 2. And be it further enacted, that any person who had, *bonâ fide*, erected or constructed any manufacture or machine, for the purpose of putting said invention into use, in any of its modifications, or was so erecting or constructing any manufacture or machine, for the purpose aforesaid, between the period of the expiration of the patent heretofore granted, on the thirtieth day of June, one thousand eight hundred and thirty-four, shall have and enjoy the right of using said invention, in any such manufacture or machine, erected or erecting as aforesaid, in all respects, as though this act had not passed. Provided, that no person shall be entitled to the right and privilege by this section granted, who has infringed the patent-right and privilege heretofore granted, by actually using or vending said machine, before the expiration of said patent, without grant or license, from said patentee or his assignees, to use or vend the same."

§ 405. The Act of Congress of July 4, 1836, § 17, declares, "that all actions, suits, controversies, and cases, arising under any law of the United States, granting or confirming to in-

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Upon this Act, Mr. Justice Story said: — "Then it is suggested, that the grant of the patent, by the Act of Congress of 1839, ch. 14, is not constitutional; for it operates retrospectively to give a patent for an invention, which, though made by the patentee, was in public use, and enjoyed by the community, at the time of the passage of the act. But this objection is fairly put at rest by the decision of the Supreme Court, in the case of the Patent of Oliver Evans. Evans *v.* Eaton, 3 Wheat. 454. For myself, I never have entertained any doubt of the Constitutional authority of Congress to make such a grant. The power is general, to grant to inventors; and it rests in the sound discretion of Congress to say, when and for what length of time, and under what circumstances, the patent for an invention shall be granted. There is no restriction which limits the power of Congress to cases where the invention has not been known or used by the public. All that is required is, that the patentee should be the inventor. The only remaining objection is, that the act is unconstitutional, because it makes the use of a machine, constructed and used before the time of the passage of the Act of 1834, ch. 213, and the grant of the patent under the Act of 1839, ch. 14, unlawful, although it has been formerly decided, that, under the Act of 1834, the plaintiff had no valid patent; and so the defendant, if he constructed and used the machine during that period, did lawful acts, and cannot now be retrospectively made a wrongdoer. If this were the true result of the language of the act, it might require a good deal of consideration. But I do not understand that the act gives the patentee any damages, for the construction or use of the machine, except after the grant of patent under the Act of 1839, ch. 14. If the language of the act were ambiguous, the Court would give it this construction, so that it might not be deemed to create rights retrospectively, or to make men liable for damages, for acts lawful at the time when they were done. The Act of Congress, passed in general terms, ought to be so construed, if it may, as to be deemed a just exercise of constitutional authority; and not only so, but it ought to be construed not to operate retrospectively, or *ex post facto*, unless that construction is unavoidable; for, even if a retrospective act is or may be constitutional, I think I may say, that, according to the theory of our jurisprudence, such an interpretation is never adopted without absolute necessity; and courts of justice always lean to a more benign construction. But, in the present case, there is no claim for any damages but such as have accrued to the patentee from a use of his machine, since the grant of the patent under the Act of 1839, ch. 14."

ventors the exclusive right to their inventions or discoveries, shall be originally cognizable, as well in equity as at law, by the Circuit Courts of the United States, or any District Court having the powers and jurisdiction of a Circuit Court, which courts shall have power, upon bill in equity filed by any party aggrieved, in any such case, to grant injunctions, according to the course and principles of Courts of Equity, to prevent the violation of the rights of any inventor, as secured to him by any law of the United States, on such terms and conditions as said courts may deem reasonable: Provided, however, that, from all judgments and decrees, from any such court rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner, and under the same circumstances, as is now provided by law in other judgments and decrees of Circuit Courts, and in all other cases in which the Court shall deem it reasonable to allow the same."[1]

§ 406. The jurisdiction of the Circuit Courts of the United States embraces, therefore, all cases, both at law and in equity, arising under the Patent Laws, without regard to the citizenship of the parties, or the amount in controversy; and it seems to be the better opinion, that this jurisdiction is exclusive, and that the state courts cannot entertain a suit for the infringement of a patent, or to declare a patent void.[2]

§ 407. When a case is sent to the Supreme Court of the United States, under the discretion conferred upon the court below, by the seventeenth section of the Act of 1836, the whole case is to go up. The word "reasonable," in the sta-

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[1] See, also, the Act, Feb. 15, 1819, c. xix.

[2] 3 Kent's Com. 368; Story's Com. on the Constitution. The course of legislation on the subject of patents, may be seen in the Appendix of this work.

tute, applies to the "cases," rather than to the points of the cases.[1]

§ 407 *a*. A bill filed on the equity side, to set aside an assignment, is not one of the "cases" contemplated by the act; since the dispute does not arise under any act of Congress, nor does the decision depend upon the construction of any law in relation to patents.[2]

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[1] Hogg *v.* Emerson, 6 Howard, 439, 478.

The Court there said: — "It may be very proper for the court below to examine those points separately, and with care, and, if most of them present questions of common law only, and not of the construction of the Patent Acts, and others present questions under those acts, which seem very clearly settled or trifling in their character, not to grant the writ of error at all. It might, then, well be regarded as not 'reasonable' for such questions, in a controversy too small in amount to make the writ a matter of right to persons, if standing on an equal footing with other suitors. But, we think, from the particular words used rather than otherwise, that the act intended, if the Court allowed the writ as 'reasonable' at all, it must be for the whole case, or, in other words, must bring up the whole for consideration."

[2] Wilson *v.* Sandford, 10 Howard, 99, 101. In this case, the Court said: "The object of the bill was to set aside a contract, made by the appellant with the appellees, by which he had granted them permission to use, or vend to others to be used, one of Woodworth's planing-machines, in the cities of New Orleans and Lafayette; and also to obtain an injunction against the further use of the machine, upon the ground that it was an infringement of his patent-rights. The appellant states, that he was the assignee of the monopoly in that district of country, and that the contract which he had made with the appellees had been forfeited, by their refusal to comply with its conditions. The license in question was sold for fourteen hundred dollars, a part of which, the bill admits, had been paid. The contract is exhibited with the bill, but it is not necessary, in this opinion, to set out more particularly its provisions.

The appellees demurred to the bill, and, at the final hearing, the demurrer was sustained, and the bill dismissed. And the case is brought here by an appeal from that decree.

The matter in controversy between the parties arises upon this contract, and it does not appear that the sum in dispute exceeds two thousand dollars. On the contrary, the bill and contract exhibited with it show that it is below

that sum. An appeal, therefore, cannot be taken from the decree of the Circuit Court, unless it is authorized by the last clause in the seventeenth section of the Act of 1836.

The section referred to, after giving the right to a writ of error or appeal, in cases arising under that law, in the same manner, and under the same circumstances, as provided by law in other cases, adds the following provision: — 'And in all other cases in which the Court shall deem it reasonable, to allow the same.' The words, 'in all other cases,' evidently refer to the description of cases provided for in that section, and where the matter in dispute is below two thousand dollars. In such suits, no appeal could be allowed, but for this provision.

The cases specified, in the section in question, are, 'all actions, suits, controversies, on cases arising under any law of the United States, granting or confirming to inventors the exclusive right to their inventions or discoveries.' The right of appeal to this Court is confined to cases of this description, when the sum in dispute is below two thousand dollars. And the peculiar privilege given to this class of cases was intended to secure uniformity of decision, in the construction of the Act of Congress in relation to patents.

Now, the dispute, in this case does not arise under any act of Congress; nor does the decision depend upon the construction of any law in relation to patents. It arises out of the contract stated in the bill, and there is no act of Congress providing for or regulating contracts of this kind. The rights of the parties depend altogether upon common law and equity principles. The object of the bill is, to have this contract set aside and declared to be forfeited; and the prayer is, 'that the appellant's reinvestiture of title to the license granted to the appellees, by reason of the forfeiture of the contract, may be sanctioned by the Court,' and for an injunction. But the injunction he asks for is to be the consequence of the decree of the Court, sanctioning the forfeiture. He alleges no ground for an injunction, unless the contract is set aside. And if the case made in the bill was a fit one for relief in equity, it is very clear that, whether the contract ought to be declared forfeited or not, in a Court of Chancery, depended altogether upon the rules and principles of equity, and in no degree whatever upon any act of Congress concerning patent-rights. And, whenever a contract is made in relation to them, which is not provided for and regulated by Congress, the parties, if any dispute arises, stand upon the same ground with other litigants, as to the right of appeal; and the decree of the Circuit Court cannot be reversed here, unless the matter in dispute exceeds two thousand dollars."

APPENDIX.

APPENDIX.

ON THE SUBJECT-MATTER

OF

LETTERS-PATENT FOR INVENTIONS.

BY THOMAS WEBSTER, M. A., F. R. S.
BARRISTER AT LAW.

In defining, arranging, and classifying the subject-matters of Letters-Patent for inventions, different terms have been employed in the laws of different countries,[1] and various arrangements and classifications adopted, according to the particular views and objects of their authors.[2]

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[1] In the United States, "Any new and useful art, machine, manufacture, composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter." Act of Congress, A. D. 1836.

In France, "Every discovery or new invention in all kinds of industry is the property of the inventor."

In the Netherlands, "An invention or essential improvement in any branch of arts or manufactures."

In Spain, "Whosoever invents, improves, or imports a new branch of industry, has a right of property thereto."

In Austria, "All new discoveries, inventions, and improvements, in every branch of industry."

See Parl. Rep. 12th June, A.D. 1829. Papers by John Farey.

[2] Mr. Godson adopts the following terms and classification:—1. A substance or thing made. 2. A machine or instrument. 3. An im-

But the subject-matter of inventions having at all times and in all countries one general characteristic, namely, the adaptation of things that exist to the wants and conveniences of man, it will be found that the laws of different countries, notwithstanding the diversity of terms employed, have all the same object, and all express substantially the same thing.[1]

The same uniformity of character ought also to exist in the arrangements and classifications of these adaptations or subject-matters of invention; and such will be the case, if they are founded on distinctions having a real substantive existence in the invention itself, and are not made to depend on certain preconceived views respecting the meaning of words and the propriety of the terms employed.[2]

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provement or addition. 4. A combination or arrangement of things already known. 5. A principle, method, or process, carried into practice by tangible means. 6. A chemical discovery.

Mr. Rankin: — 1. A thing manufactured. 2. A manufacturing process.

Mr. Holroyd: — 1. Things made. 2. Practice of making.

Mr. Carpmael: — 1. "A new combination of mechanical parts or instruments, whereby a new machine is produced, though each of the parts be separately old and well known."

2. "An improvement on any known machine, whereby such machine is rendered capable of performing more beneficially."

3. "Where the vendible substance is the thing produced, whether by chemical or mechanical process, such as a new description of fabric."

4. "Where an old substance is improved by some new working — the means of producing the improvement, in most instances, is patentable, whether chemical or mechanical."

5. "The application of a known substance or material to a new purpose, when there requires art to adapt it, is the subject of a patent."

The latter classification seems unobjectionable, and expresses, in a practical manner, the various kinds of inventions, and the means by which they are to be carried into practice.

[1] See Law & Practice, 8, n. *x*.

[2] The meaning of words, their propriety, and applicability, have been a fruitful source of discussion in Patent Law.

Watt's case presents an instance of a most elaborate discussion on the word 'principle.' The specification stated the invention to "consist in the following principles," and then proceeded to describe the nature of the invention, and the particular manner in which it was to be carried into practice. (Law & Pr. 46.)

That description was held sufficient, after the verdict of the jury; also

Letters-Patent are granted for inventions. The form of the legal instrument by which certain privileges are granted to the true and first inventor, or the manner in which this character may be acquired,[1] does not form any part of the present inquiry, which is directly simply to the question, on what kind of inventions these privileges can by law be conferred.

Invention defined.

Invention, in its most extended sense, may be defined to be the embodying in words, figures, or some material form, the conceptions and creations of the mind. Such an extended application, however, of the term, including the practical exercise of mind in whatever sensible or material form exhibited, is not the subject of the present inquiry, which is confined to the class of inventions which may become the subject of Letters-Patent, and which is, defined in the statute, by the words "the working or making of any manner of new manufactures."[2] But there are inventions to which

Subjects of letters-patent.

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the term principle was explained by what followed, though "particulars" or "rules of practice" might have been more correct; and, had those been used, much of the lengthened disquisition and apparent confusion in this case would probably have been spared. Boulton and Watt *v.* Bull, 2 H. Bl. 463.

The irrelevancy of this kind of discussion seems to have struck some of the judges in the subsequent case of Hornblower and Maberly *v.* Boulton and Watt.

Lord Kenyon, C. J.: "No technical words are necessary to explain the subject of a patent; as Lord Hardwicke said upon another occasion, there is no magic in words."

Lawrence, J.: "Principle may mean a mere elementary truth, but it may also mean constituent parts, and, in effect, the specification is this: 'The contrivance by which I lessen the consumption of steam consists in the following principles' (that is, constituent or elementary parts); 'A steam-vessel, in which the powers of steam are to operate, to be kept as hot as the steam by a case; a distinct vessel to condense the steam, and pumps to draw off such vapor as is likely to impede the motion of the fire-engine,' &c. That is the description of the thing." 8 T. R. 92. See, as to this term, *post*, 43.

[1] As to these, see Law & Pr. 49, n. *g*.

[2] See Law & Pr. 45, n. *e*.

Heath, J.: "I approve of the term manufactures in the statute, because it precludes all nice refinements; it gives us to understand the reason of the proviso, that it was introduced for the benefit of trade." 2 H. Bl. 482.

these terms would appear to be applicable, which, nevertheless, are not the subject of letters-patent; such, for instance, as those which are the subject of registration, under the recent statutes[1] giving copyright in designs for articles of manufacture.

Subjects of registration.

Character of the invention.

The invention will have a peculiar character, according to the department of knowledge from which it is derived; and, since the adaptation of the truths of exact science, or of the laws of physical science, or the application of the general properties of matter, may furnish, either alone or in combination with each other, practical results, the terms usually employed therein will be the most convenient terms to employ, in treating of the inventions derived from these respective sources.

Axiom.

Thus, should the invention consist in the practical application of some simple proposition in geometry, the term "axiom"[2] would appropriately be introduced in the description of the invention, and, inasmuch as the same term is frequently employed to express, though, perhaps, with less propriety, the more simple truths or propositions of other departments of knowledge, and, also, any acknowledged truth, this term may be appropriately introduced in the description of any invention founded thereon.

Ashurst, J.: "Every new invention is of importance to the wealth and convenience of the public; and, when they are enjoying the fruits of a useful discovery, it would be hard on the inventor to deprive him of his reward." 8 T. R. 98.

Eyre, C. J.: "The advantages to the public from improvements of this kind are, beyond all calculation, important to a commercial country, and the ingenuity of artists who turn their thoughts towards such improvements, is, in itself, deserving of encouragement; and, in my apprehension, it is strictly agreeable to the spirit and meaning of the statute 21 Jac. I., that it should be encouraged. 2 H. Bl. 494.

[1] Consolidated and amended by 5 & 6 Vict. c. 100; as to which, *post*.

[2] The term "axiom" is used to express the simplest order of propositions, or a proposition of so simple a nature that no reasoning can add to its force; or, which may be said to be the necessary and self-evident consequence of the definitions, and not susceptible of any formal demonstration. It is also applied to all kinds of admitted truths, and all demonstrations; that is, all reasoning founded on definitions may be said to terminate in axioms.

Should the invention consist in the practical application of some of the truths or facts of physical science, the term law, or principle, may most appropriately be employed in explaining the nature of the invention and the manner in which it is to be performed. Law and principle.

Should the invention consist in the application of some of the properties of matter, or in the simple arrangement and combination of particles, without reference to any theoretical analysis respecting the laws or principles of action of that matter, the general words, 'method, process, or mode,' will suggest themselves as the most convenient and appropriate words for describing that invention.[1] Method, process, and mode.

In the great majority of cases, several of these terms may be applied with perfect indifference; the peculiar habits and occupation, or the peculiar theoretical and philosophical views, of the person describing the nature of the invention, and the manner in which it is to be performed, will lead him, unconsciously, to select some in preference to the others, and to use several in the same description; and the terms, consequently, will not unfrequently be either misapplied, or used in senses somewhat inconsistent with their strict and proper application.

But such misapplication of terms cannot affect the substantial and distinctive features of the invention, and, unless the terms are employed in a manner so perverse and contrary to their ordinary acceptance that the crown may have been deceived in granting the letters-patent, or the public may be unable to understand the invention as described by them, the validity of the grant will not be affected by the particular terms employed.[2] Such, then, being the various terms

[1] Thus, Buller, J.: "The method and the mode of doing a thing are the same, and I think it is impossible to support a patent for a method only, without having carried it into effect, and produced some new substance. But here it is necessary to inquire, what is meant by a principle reduced into practice? It can only mean a practice founded on principle, and that practice is the thing done or made, or, in other words, the manufacture which is invented." 2 H. Bl. 486.

Lawrence, J.: "Method, properly speaking, is only placing several things and performing several operations in the most convenient order; but it may signify a contrivance or device; so may an engine, and, therefore, I think it may answer the word method." 8 T. R. 64.

[2] A brush being thought improperly described as a "tapering

Extension of the preceding terms.

which may be made use of, according to the department of knowledge from which the invention is derived, it becomes necessary to consider certain other applications, which may, with equal propriety, be made of them. These terms having, originally, reference to those truths and facts with the origin of which man had nothing to do, are, by a very natural and common transition, transferred to the arrangements of matter due to man's inventive skill, and the particular modes which he has devised for operating and producing effects, are expressed by the terms 'laws and principles.'

Thus, matter and things are said to be arranged according to a certain law, that is, according to a certain rule or order which man has devised, and machines are said to act according to certain principles, that is, in certain manners. All these cases, however, are referable to the ulterior laws or principles of the particular department of knowledge from which the invention may be considered as derived.

Instances.

Many instances occur, in which it is said that the one arrangement is a mechanical equivalent for another, because, according to the truths or propositions of mechanics, the relations between forces and motions may be varied indefinitely, the same effects still being produced. Hence it follows, that the same effects may be produced by two machines apparently extremely dissimilar in construction, but of which the principles are essentially the same.

In mechanics.

Thus, under certain circumstances, a wheel and axle are the same as a lever, and an inclined plane the same as a screw, and the invention will be the same, whether the one or the other be used.[1]

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brush," it was held that the difficulty arising from the grammatical construction could not be removed, unless the term had, by the usage of the trade, acquired a perverted sense. Per Lord Ellenborough, C. J. R. *v.* Metcalf, 2 Stark. 249. But see Reports on Patents, 141.

But the use of French terms will not vitiate. Per Abbott, C. J. Bloxam *v.* Elsee, 1 Car. and P. 558.

Nor the use of words in a purely technical, or in a new sense, if explained by the context. Derosne *v.* Fairie, Pat. Rep. 157.

Clear inconsistency is a fatal defect. See Law & Practice, 88, n, *b*.

[1] In a theoretical point of view, or according to the laws of mechanics, a simple lever is the same machine as a wheel and axle; but, in respect of their practical applications, they are very different. The same is the case with the inclined plane and screw. From these may

The principle of all steam-engines, in respect of their being applications of the elastic force of steam, is the same, but in respect of the mechanical arrangements by which that law of nature may be made available, so as to constitute an invention, an unlimited variety may exist. Indeed, it is not possible that one piece of matter, arranged by the hands of man, should resemble, in every respect, any other arrangement of matter, but, the same principles or rules for our guidance being observed in each arrangement, the results are substantially the same. The steam engine.

In every other department of science, in chemistry or electricity, for instance, there exist various substances by which the same result or effect may be produced; it may be a matter of perfect indifference which substance is employed; but one invention may possess the same distinctive character as another, though the particular means by which certain results and effects are produced, are not precisely the same. The question to be determined in these cases is, whether the particular means constitute the substance of the invention.[1] Chemistry and Electricity.

All results are brought about, or effects produced, by the intervention of certain agents; as, though agents are substantially the same or different, the inventions are similar or dissimilar accordingly.

The above general review of the various objects of invention will point out certain consequences and distinctive features, or characteristics, in inventions, of great importance hereafter.

First, it may be of importance to remark, that the discovery and announcement of any axiom or proposition of abstract science, of any law of nature or principle of physical science, of any property of matter, is not an invention The discovery of a truth not an invention.

be drawn important illustrations of the subject-matter of patents. Suppose a simple lever or the inclined plane to have been known and in use; the inventor of the wheel and axle, or of the screw, would have been entitled to a patent, but he would have had some difficulty in describing it, except as a new application of the principle of the lever, or of the inclined plane. Thus in Morgan *v.* Seaward, an eccentric disk and a crank were held to be mechanical equivalents. Pat. Rep. 168 and 171.

[1] See *post* 528, note 1.

in the sense in which the term is here used, or such a discovery as can be the subject-matter of letters-patent. Such an invention or discovery is an addition to our knowledge only; it must be applied so that some results or effects may be produced, whereby the arts and manufactures, or trade and commerce of the country may be benefited.

The application of such truth may be an invention.

Secondly, an invention may consist in the application of an axiom or proposition of abstract science, of a law or principle of physical science, to a special purpose, or in some peculiar arrangement of matter whereby those axioms or laws are in a condition to act. And it will be material to inquire, whether the application of the axiom and principle to a specified purpose, and with an assigned object, or the particular arrangement whereby it is applied, is the substantial and essential part of the invention.

Illustration from Watt's case.

An illustration of the preceding may be derived from the celebrated case of Watt's patent. The object of this invention was to lessen the consumption of steam and fuel in fire-engines; and this was to be effected by various means; among others, by casing the steam cylinder, so that the exterior might be kept as hot as the interior. This end might be attained in many ways, which would readily suggest themselves to the parties.

The characteristic, then, of this part of the invention was, the keeping in the heat of the steam by the application of some casing — the mode in which it was to be performed would be subsidiary to the main idea. This, whether effected by a jacket kept full of steam, or by a wooden case containing sawdust, or any other non-conductor of heat, would still, substantially, be the same invention.

A similar observation may be made with respect to the rest of his invention, which furnishes an instructive example of an invention, in which the particular arrangement by which the principles were to be carried out is not of the substance of the invention, but incidental to the main idea.[1]

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[1] The doctrine here insisted on seems fully recognized by Eyre, C. J. "The substance of the invention is a discovery, that the conducting the steam out of the cylinder, and protecting the cylinder from the external air, and keeping it hot to the degree of steam heat, will lessen the consumption of steam. This is no abstract principle; it is in

But, in the case of Arkwright's machinery for spinning cotton, the particular arrangement of the parts was the substance of the invention; and the same is the case whenever the invention consists in the making or producing some particular thing or substance, as a machine, a paint, or a medicine.[1] Arkwright's case.

It would follow, from the above considerations, that inventions may be viewed in one of two classes, the one, where the particular arrangement of matter is the substance of the invention, so that the result, or effect produced is the real subject-matter; the other, where the particular mode of attaining the arrangement or result is the substance of the invention, so that the real subject-matter is the mode of production. Thus, the first stocking made by hand was a new invention or manufacture, belonging to the former class, and the first stocking made by machinery was also a new invention, belonging more properly to the latter class. Under one Two classes of invention.

its very statement clothed with practical application; it points out what is to be done in order to lessen the consumption of steam. Now the specification of such a discovery seems to consist in nothing more than saying to the constructor of a fire-engine, 'for the future, condense your steam out of the body of the cylinder, instead of condensing it within it — put something round the cylinder, to protect it from the external air, and to preserve the heat within it, and keep your piston air-tight without water.' Any particular manner of doing this, one should think, would hardly need to be pointed out, for it can scarcely be supposed that a workman, capable of constructing a fire-engine, would not be capable of making such additions to it as should be necessary to enable him to execute that which the specification requires him to do. But if a very stupid workman should want to know how to go about this improvement, and, in answer to his question, was directed to conduct the steam, which was to be condensed, from the cylinder into a close vessel, by means of a pipe and a valve communicating with the cylinder and the close vessel, to keep the close vessel in a state of coldness sufficient to produce condensation, and to extract from it any part of the steam which might not be condensed by the pump — and was also told to inclose the cylinder in a wooden case, and to use a resinous substance, instead of water, to keep the piston air-tight — can it be imagined that he would be so stupid as not to be able to execute this improvement, with the assistance of these plain directions?" 2 H. Bl. 497.

See Law & Practice, 46.

[1] See R. v. Arkwright, printed case; and Pat. Rep. 56.

of these two classes — the thing produced, or mode of production — inventions may be classified.

All invention an application or adaptation.

It will follow also from the preceding, that all invention, whatever its object, will consist in new applications or adaptations. Matter is endowed with certain properties, and subject to certain laws; man cannot alter these properties or impose other laws, but he has the power of applying those properties and of giving occasion for the exercise of those laws, according to his will, and the result of the exercise of that will is exhibited in manufactured, as distinguished from elementary matter.[1]

Subject-matter, by Statute.

Words of the statute.

Such then being the general nature of that invention by which the arts and manufactures of a country may be advanced, it is necessary to compare the preceding with the words of the statute, and to show the various ways in which the letter and spirit of the statutes of the common law may be complied with.

According to the words of the statute, letters-patent are to be for the "working or making of any manner of new manufactures within this realm, which others, at the time of making such letters-patent, shall not use";[2] and the letters-patent are granted for the particular new invention stated in them. The terms "new invention" must be considered as defined and interpreted by the words of the statute; or such new inventions only will be the subject-matter of letters-patent as the spirit and letter of the statute will fairly comprehend. The express words of the statute will include all the objects of the adaptations and arrangements

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[1] The phrase "manufactured matter" seems to express, in a peculiar and distinct manner, all those particular arrangements which are due to the exercise of the inventive faculty of man. Matter exists in its elementary state in the iron-stone, limestone, and fuel; but when these materials have been subjected to certain processes devised by the ingenuity of man, the result is that particular species of manufactured matter which we call iron.

[2] See 21 Jac. 1, c. 3, s. 6; Law & Practice, 44; and Pat. Rep. 31.

of matter to which attention has already been directed, and may be considered as pointing out generally, first, the class or kind of objects, and secondly, the character of the subject-matter in respect of which the proviso was introduced. The arts and manufactures of the country constitute the class of objects; the character of the subject-matter, or the nature of the invention as defined by these words, remains to be considered.

Meaning of the word 'manufacture.'

The generality of the expression "any manner of new manufacture" removes all difficulty which might be felt, in the present advanced state of the arts, respecting the strict or literal meaning and import of the word "manufacture." That word, in its etymological sense, would refer to some object of skill or industry executed by the hands of man, and the manufactures of a country are all those objects viewed collectively; but, inasmuch as the perfection of manufacture consists in the substituting other agents for human labor, this term "manufacture" now includes every object upon which art or skill can be exercised, so as to afford products fabricated by the hand of man, or by the labor which he directs.

Nor must the import of the words "any manner" be passed over without notice, since cases may occur in which, by virtue of the generality of the expression "any manner of new manufactures," inventions, respecting which some doubts might otherwise be entertained, will at once be recognized as comprehended within both the letter and spirit of the statute.

Now all manufacture consists in a series of processes, and the particular character of each manufacture depends on the particular series of processes pursued. And this series of processes may consist in executing a certain number of things in a certain definite order, or in the application of known things in a particular manner, and for particular purposes, or in some particular arrangements and combinations. And any change in the series of processes pursued will constitute a new manufacture.[1]

[1] Eyre, C. J.: "Probably I do not overrate it when I state that two thirds, I believe I might say three fourths, of all patents granted since the statute passed, are for methods of operating and of manufacturing, producing no new substance, and employing no new machinery." 2 H. Bl. 494.

The conducting or executing the series of processes, upon which the character of the manufacture depends, is expressed in the statute by the words, "working or making," either of which is equally applicable, though some cases will occur in which one term may appear preferable to the other; and it is unnecessary to attempt distinctions, when the general import of the words is clearly expressed.

Any improvement a new manufacture.

The definition of a manufacture, as consisting in the particular series of processes, and the consideration of the consequences of any change in such series, leads at once to the important practical conclusion, that any improvement in the mode of obtaining a known product is a manner of new manufacture. Hence, both the words and spirit of the statute are satisfied, either by the invention of a product not before known, or by an improvement in the mode of production; that is, by a new article, or by an article made in a new manner.

Manufactured matter and its applications.

The clause of the statute has hitherto been considered with reference to those inventions, in which some distinct product or substance is produced. It must, also, be considered with reference to a class of inventions, in which no single product or distinct substance, but a general effect or result, is obtained. In the infancy of the arts or manufactures of a country, the objects of invention will be almost exclusively new products, or new methods of obtaining those products.[1] But, as the arts and manufactures advance, that ingenuity which was at first exercised in obtaining new products, by the arrangements of matter in its elementary state, that is, in the production of manufactured matter, will be principally directed to the application of those products, or to new arrangements of that manufactured matter.

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[1] Some of the new manufactures, before the statute, (21 Jac. 1, c. 3,) were frisadoes, (Hastings's case); something concerning lead ore, (Bircot's) case; a new knife, (Matthey's case); an instrument for melting lead, (Humphrey's case); those mentioned in the statute relate to glass, alum, smalt, and making iron by means of pit coal, (Lord Dudley's.) See these in my Reports of Patents.

The latter class of inventions is commonly described as the new application of known substances in known manners, and objections have been made to such subject-matters, but, it is conceived, without good reason. For, whether the invention consist in the production of some new thing, or in some new mode of producing that thing, it really consists in the application or adaptation of matter to the particular purpose, or in the particular manner; this, as has already been observed, being one characteristic of all invention whatsoever.[1] The first production of iron, for instance, was a new application of known substances; and the first production of a knife, a stocking, or of any other article, is an application of some known substance or thing. The substance or thing having been once produced, attention will be directed to improvements in the mode of production. An invention, having this object, may consist either in the new application of some known substance, as of lime to iron, or in the particular order or series of the processes pursued; any change in that order or series constituting, as we have seen, a new manufacture.[2] A particular mode of production consists only in arranging, according to some definite rule or law, existing matter, so as to bring about a known result in that particular manner; and such an invention may also be described as a new application.

New application of known substances in known manners.

Hence, whether the thing produced or the mode of production be the subject-matter of the invention, the result obtained is manufactured matter.

On the same principle that the application and adaptation of elementary, as exhibited in manufactured matter, are included under the letter and spirit of the statute, the application and adaptation of manufactured matter, that is, of existing substances and things, are also included. From these result the various combinations of parts and elements, whereby machines, compound substances, and constructions are produced, and the application of such machines, substances, and constructions, to produce results in a more beneficial and economical manner. For no distinction can be drawn betwixt the application and adaptation of matter

Extension of preceding to machines and combinations generally.

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[1] See *ante*, p. 530.

[2] See *ante*, p. 531.

in its elementary state, and the application and adaptation of matter in a state next to the elementary, that is, in a manufactured state, and the statute will consequently include the new applications and adaptations of such existing substances and things.

Distinction between application and adaptation.

In the preceding, the terms application and adaptation have been used in connection with each other, and they are generally of the same import; but cases will occur, in which it will be necessary to distinguish between them, and to point out instances of applications which are not adaptations, in that sense of the term in which either is the subject-matter of letters-patent.[1]

It may, also, be convenient to distinguish between the cases in which the thing produced, or final result, presents no traces of the particular application or adaptation wherein the invention consists, and the cases in which the thing produced, or final result obtained, exhibits the particular application or adaptation. Iron, and similar manufactures, present, in the final result, no traces of the particular elementary matter which has been applied and adapted, or of the particular process pursued; but a steam-engine, and other constructions, present the particular applications and adaptations by and for which they exist.

Classification of Cases.

It will be convenient to show the classifications which may be made of inventions, which have formed the subject-matter of letters-patent, more especially such of them as have given rise to legal and other proceedings. The following classifications are suggested, as distinct and comprehensive.[2]

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[1] A mere application may be sometimes described as a double use. See *post*, 24, 25.

[2] Most classifications, if rigidly examined, fail; but still, for practical purposes, they may be extremely useful. This is peculiarly the case with all classifications of the subject-matters of letters-patent. Under one point of view, all inventions have the same character, *ante*, 529; and, of the classes here given, the first may be considered as

I. An arrangement, combination, or composition of matter; the particular arrangement, combination, or composition being of the essence and substance of the invention.

II. An arrangement, combination, or composition of matter, with the view of carrying out into practice certain truths, laws, or principles; the particular arrangement, combination, or composition not being of the essence or substance of the invention, except as in connection with, and subsidiary to the truths, laws, or principles, which are to be so carried out into practice.

III. An application and adaptation of natural or known agents, and of known substances or things.

Under one of the preceding classes, the subject-matter of letters-patent may be readily and conveniently arranged.

First class. I. An arrangement, combination, or composition of matter; the particular arrangement, combination, or composition being of the essence and substance of the invention.

Hastings's. The earlier cases, as the letters-patent granted to Hastings, (9 Eliz.) in consideration that he brought in the skill of making frisadoes from abroad; to Matthey, for a knife; and to Humphrey, for a sieve or instrument for melting lead,[1] present instances under this class. In these and similar cases, either the thing produced, or the mode of production, may be considered as the subject-matter of the invention; but, when a thing has been produced before, the subject-matter of the invention will have reference to the mode of production; and it is sometimes convenient to consider the essence and substance of every invention, in which some particular thing is produced, as consisting in the mode of production, that is, in the mode of applying and adapting the matter which already exists.

The mode of production the real subject matter.

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including the second; also several of the cases cited in illustration of the third, may be referred to the first class. But the several inventions, if their nature be considered in a practical, rather than in a theoretical point of view, will be found conveniently to group themselves in the classes here suggested; and a classification of this kind contributes very much to a clear exposition of what is a manufacture, within the meaning of the statute, and to a distinct conception of the points to be attended to, in the structure of the specification.

[1] See Pat. Rep. 6 & 7.

Lord Dudley's.

Lord Dudley's patent, (19 Jac. 1,) for melting of iron ewer, and making the same into cast-works, or bars, with sea coals, or pit coals, may also be referred to this class; for the iron so made would be a different composition of matter from that made with charcoal; but, inasmuch as that particular combination or composition could not be distinctly defined, or distinguished from those arrangements, combinations, or compositions of the similar elements which constituted iron as before known, it seems better to refer this invention to the third class. The invention, in this case, could only relate to the mode of production; since the iron would have apparently the same physical properties, and, for all practical purposes, would be the same substance as had been produced by the use of charcoal.[1]

Arkwright's.

In Arkwright's patent, (A. D. 1773,) for certain machines for preparing silk, cotton, flax, and wool, for spinning, the invention consisted in the combination of known elements of machinery, that is, in a particular arrangement of manufactured matter.

Morris's.

In Morris's patent, (A. D. 1764,) for a machine with a set of working needles, to be applied to a stocking-frame for making oilet-holes, or net-work, in silk, thread, or cotton, the invention consisted in the addition to an existing thing, the old stocking-frame, of this particular combination of known things. In an action for the infringement of this patent, it was objected, that there could be no patent for an addition, but the objection was overruled by Lord Mansfield. The plaintiff had a verdict, with 500*l.* damages.[2]

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[1] The same observations will apply to many subsequent patents, as, for instance, to Hill's, for cinder iron, and curing the defect of cold short by the addition of lime, Pat. Rep. 225; and to Crane's, for the anthracite iron. The substances so produced would be new compositions of matter, but are more conveniently described as new applications of known things; also, having the same apparent qualities as the substances known before, they may be spoken of as improvements in the mode of production. Thus, Crane's invention may be described as the mode of procuring iron, by combining the hot-blast and anthracite. See *post*.

[2] See Pat. Rep. 51; Bull. N. P. 76, c.

Lord Mansfield, C. J.: — "If the general question of law, namely, that there can be no patent for an addition, be with the defendant, that

Since the preceding case, an addition or an improvement generally has been held a subject-matter for letters-patent;[1] and an examination of the list of patents will show by far the greater number of patents to have been granted for improvements. This old objection was subsequently raised, on a *caveat* at the Great Seal, in the particular case in which the letters-patent solicited were for an improvement on an existing patent, but the objection was overruled by Lord Eldon, L. C., who said, that a party having invented improvements on any patent, could not use that patent before the expiration of its term; and the solicited letters-patent were granted.[2] An addition or improvement a subject-matter.

The addition or improvement, supposing it a separate and independent instrument or thing, may be a new arrangement of matter, but the real subject-matter of the invention will, in general, be the old and new instrument or thing in combination, and such combination will be a new arrangement of matter, by virtue of that very addition.[3] And in the same

is open upon the record, he may move in arrest of judgment; but that objection would go to repeal almost every patent that was granted."

[1] See Boulton & Watt *v.* Bull, 2 H. Bl. 489.

Buller, J.: "In later times, whenever the point has arisen, the inclination of the Court has been in favor of the patent for the improvement, and the parties have acquiesced where the objection might have been brought directly before the Court."

Also Hornblower & Maberly *v.* Boulton & Watt, 8 T. R. 104.

Grose J.: "If indeed a patent could not be granted for an addition, it would be depriving the public of one of the best benefits of the statute of James."

[2] Fox, *ex parte*, 1 Ves. & B. 67.

This objection was not raised in the case of Harmer's patent, (Harmer *v.* Plane, 14 Ves. Jr. 130; 11 East, 101,) nor Lewis's, (3 Car. & P. 502,) which were expressly for improvements on existing patents; and several other important cases, as Huddart's and Russell's, were, in fact, improvements on existing patents.

It was urged, as an objection to Crane's patent, that the invention required the use of a subsisting patent, but the Court of Common Pleas decided such subsequent patent to be valid, though it could only be worked by license under the former patent. Crane *v.* Price and others, Pat. Rep.

[3] In cases of this kind, the specification must clearly distinguish in what the improvement consists. See Harmer *v.* Plane. Dav. Pat. Cas. 311. Macfarland *v.* Price, 1 Stark. 199; Pat. Rep. 74.

manner that an addition to an existing thing constitutes a new arrangement of matter, an omission of an existing thing also constitutes a new arrangement of matter, which may be the subject-matter of letters-patent. In Whitehouse's patent (A. D. 1825, assigned to Russell,) for improvements in manufacturing tubes for gas and other purposes, the substance of the invention consisted in omitting an instrument called a maundril, which was used in the manufacture of these tubes under a previous patent, (James & Jones,) and upon which the subsequent patent was an improvement. The tubes so manufactured, (by the omission of the maundril,) were a particular arrangement or composition of matter, but the invention in this case is more properly described as the mode of producing such tubes or arrangements of matter.[1]

Omission a subject-matter.

Else's. In Else's patent for a new manufacture of lace, called French, otherwise ground lace, the substance of the invention consisted in a particular arrangement of mattér, or in the mode of mixing silk and cotton thread upon the frame.[2]

Brunton's. In Brunton's improvements in chain cables, the invention consisted in substituting a cast-iron stay with a broad end, so as to clasp the sides of the link for a wrought-iron stay, which pierced the links of the cable as made on Brown's method. This, as well as the other improvements included in the same patent, was a new combination or arrangement of matter.[3]

Galloway's In Galloway's improvements in paddle wheels, the invention consisted in the particular arrangement according to an assigned law of the float-boards, previously used for the same purposes, but arranged in a different manner; in this invention, the particular arrangement was the essence of the invention.[4]

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[1] See Russell *v.* Cowley, 1 Cr. M. & R. 864, and 1 Rep. Arts, N. S.

[2] See R. *v.* Else, Pat. Rep. 76.

Buller, J.: "The patent claims the exclusive liberty of making lace composed of silk and cotton thread mixed, not of any particular mode of mixing it; and, therefore, as it has been clearly proved and admitted, that silk and cotton thread were before mixed on the same frame for lace, in some mode or other, the patent is clearly void." Ibid.

[3] See Brunton *v.* Hawkes, 4 B. & A. 541; and *post.*

[4] See Galloway *v.* Bleaden, 15 Rep. Arts, N. S.; and Pat. Rep.

Many instances in illustration of this class may be derived from the numerous patents in which the mode of production will have reference to the laws of chemical combination, as well as of mere mechanical admixture, as in the manufacture of iron, the composition of paints, stuccos, medicines, and similar substances. In Zinck's patent for making verdigris, the invention consisted in certain proportions of granulated copper, oil of vitriol, and *aqua fortis*, boiled for a certain time in a copper of a particular construction, and afterwards strained off and mixed with a solution of potash and soda. The particular composition of matter so produced, was the essence and substance of this invention.[1]

Chemical patents.

Zinck's.

Many instances, in illustration of the above class, may be derived from the patents granted for new fabrics, though it may be convenient to arrange some of these under the third class.

New fabrics.

In Sievier's patent for improvements in the manufacture of elastic goods, by combining in the warp covered threads of caoutchouc with non-elastic threads, and thereby forming a cloth, in which the non-elastic threads are the limit to which the elastic threads can be stretched — the essence of the invention was the particular arrangement and combination of matter. The subject-matter of this invention may also be considered as the application of a known substance, in a known manner, to a purpose known before.[2]

The cases already mentioned will sufficiently illustrate that class of inventions in which the result attained, or manufacture produced, consists simply in some specified arrange-

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[1] See Wood & others *v.* Zimmer, 1 Holt, N. P. C. 58; Pat. Rep. 82.

The following well-known cases possess many points in common with the preceding:

Tennant's, for a bleaching liquid. Pat. Rep. 125.

Turner's, for a yellow color. Turner *v.* Winter, 1 T. R. 602; Pat. Rep. 77.

Liardet's, for a composition or stucco. Pat. Rep. 52.

Wheeler's patent, in which the invention was of a new coloring matter produced from malt. R. *v.* Wheeler, 2 B. & Ald. 349.

Savory's, for a seidlitz powder. Savory *v.* Price, Pat. Rep. 83.

[2] See per Tindal, C. J., in Cornish *v.* Keene, Pat. Rep.; 3 Bing. N. C., 570.

ment, combination, or composition of matter, frequently without regard to any very precise proportions of the constituent parts or elements, though, in such cases, the inventions will generally, with more propriety, be referred to the third class. When the invention is to be classified and distinguished, according to the mode of production, the particular means pursued will point out the appropriate class.

Second class.

II. An arrangement, combination, or composition of matter, with a view of carrying out into practice certain truths, laws, or principles, the particular arrangement, combination, or composition not being of the substance and essence of the invention, except as in connection with, or subsidiary to, the truths, laws, and principles, which are to be so carried out into practice.

Gamble's patent.

The paper machine, which was the subject of letters-patent to Gamble, in 1801 and 1803, will furnish an instructive illustration of this class of cases. The subject-matter of the invention was the making paper into sheets of great length, by means of machinery. This was effected by receiving the pulp on an endless web of wove wire, or other suitable material, passing round two cylinders, made to revolve with uniform velocity. The carrying out into practice this general idea or principle of the invention, would require arrangements and combinations of a very complex nature, and arrangements or combinations in themselves extremely different, would, when adopted in connection with, and as subsidiary or incidental to, this main idea, still be, substantially, the same invention. The invention did not consist in some particular means of applying an endless web to make sheets of paper of an indefinite length, but in the application of such endless web. The substance and essence, then, of this invention was an arrangement, combination, or composition of parts, that is, manufactured matter, whereby paper might be made by means of an endless web, in sheets of an indefinite length.

Dollond's.

In Dollond's patent (A. D. 1758,) for a new method of making the object glass of telescopes, the invention consisted in combining a convex lens of crown glass and a concave lens of flint glass, so that certain known laws of light in respect of refraction and achromatization, and the

production of an image, might be carried out into practice. The invention did not consist in any mode of making the glass, or of grinding the lenses, or in assigning any particular degrees of sphericity to their surfaces — these being known from the ordinary propositions of optics — but simply in combining two lenses of the kind described, so as to obtain a correction of color, and leave some amount of refraction.[1]

Bainbridge's. In Bainbridge's patent, (A. D. 1807,) for improvements on the flageolet, or English flute, the invention consisted in constructing a flute so that the physical law of the vibration of a column of air, upon which the production of a particular note depends, might be carried out in practice, in the improved instrument.

Cochrane and Galloway's. In Cochrane and Galloway's patent, for removing the inconvenience of smoke and gas generated in stoves, the invention consisted in the retention of a volume of atmospheric air, in a condensed state, within a close furnace, in order to effect perfect combustion. The particular means by which the inventors proposed to carry out into practice the principles or laws of combustion, were described in the specification, which contained the following passage: — "These objects may also be effected and produced by other abstract parts and combinations of machinery, not explained or described; but yet such alterations may be made, embracing the principle of our invention, that may be a different modification of them, and yet be, substantially, in their effect and principles, our invention."[2]

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[1] See specification of Dollond's patent; Pat. Rep. 42. It may be said that Dollond's object glass was simply a combination of matter under the first class, but the lenses were to be combined according to known theoretical laws. Ibid. 45, n.

[2] In an action for an infringement of this patent, (Cochrane & Galloway *v.* Braithwaite & Ericsson, 3 Lond. J. 42,) by an invention in which the same principles of combustion were carried out in a different manner, and, among other things, by producing the condensed state of the air by means of a contracted orifice, instead of a weighted valve — Sir Thomas Denman, C. J., said: — "All that seemed indispensable was, that the required resistance, the necessary degree of compression, should be produced; and, if that could be obtained by narrowing the

Minter's. In Minter's patent for an improved chair, the invention was described as consisting in the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of the chair. The application of self-adjusting leverage to this purpose might be effected by many different arrangements and combinations, so that the substance of this invention was not any one particular arrangement or combination of matter, but such an arrangement as was subsidiary to the carrying out into practice the principles described in the specification, that is, the well-known laws of a particular kind of compound lever.[1]

Jupe's. In Jupe's patent, for an improved expanding table, the invention consisted in making a table in sections, which might diverge from a common centre, so that the table would be enlarged or expanded, on inserting leaves or pieces in the openings or spaces caused by such divergence. The validity of this patent was contested, on the ground that a table, divided as described, did not constitute a manufacture, without reference to the mechanical means by which the divergence was effected.[2] If it be a manufacture, the subject-matter of these letters-patent is a particular arrangement of parts, for the purpose of effecting a certain object; but the particular arrangement described is not of the essence and substance of the invention, except as

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outlet, as well as by a weighted valve, such a mode of effecting the object must be held as being covered by the words 'any other known means of producing required resistance.'" See Law & Practice, 79.

[1] See the specification, and Minter *v.* Wells, Pat. Rep. 126.

[2] See Jupe *v.* Pratt, Pat. Rep. 151, and the specification, *Ibid.*

Alderson, Baron:—"You cannot take out a patent for a principle, but you may take out a patent for a principle coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect; but then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by a jury as piracy." *Ibid.* 146.

This same important doctrine was laid down by Lord Tenterden, C. J., in Lewis and another *v.* Davis, 3 Car. & P. 502.

in connection with, and subsidiary to the expansion of the table, and the divergence of the parts from a centre.

Watt's patent, though this may be more conveniently referred to the third class, will also furnish an important illustration of the preceding. The letters-patent were for an improved method of lessening the consumption of steam and fuel in fire-engines, and the specification stated the improved method to consist in the following, among other principles, namely, in keeping the cylinder hot, in condensing the steam in a separate vessel, in withdrawing from that vessel the elastic vapor which was not condensed, so as to have as perfect a vacuum as possible; the specification also pointed out the means by which these principles were to be carried out;[1] and the directions and description given therein were, according to the finding of the jury, sufficient to enable a mechanic, acquainted with fire-engines previously in use, to construct fire-engines so as to lessen the consumption of steam, and, consequently, of fuel; that is, to realize and put in practice the invention of Watt. The subject-matter of this patent, if referred to this class, must be considered as a particular arrangement and composition of manufactured matter, in connection with and furtherance of the principles or rules of management pointed out in the specification.[2] Watt's.

The preceding are some of the principal cases, in which the most important part or the merit of the invention consists in the conception of the original idea, rather than in the manner in which it is to be carried out or applied in practice. Many other cases might be mentioned, but the preceding, it is conceived, will be sufficient to illustrate this class, and to show that inventions may have a character which is totally independent of the particular means by which they are applied, so that the imitating that character may be a piracy of that invention, although the means may Inventions may have a character independent of the means.

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[1] See Law & Practice, 46, and *ante*, 528, note.

[2] The distinction here contended for is recognized in several of the judgments delivered in this case. Thus —

Eyre, C. J.: — "Some machinery, it is true, must be employed, but the machinery is not of the essence of the invention, but incidental to it." Boulton & Watt *v.* Bull, 2 H. Bl. 496. See, also, *ante*, 528, note.

be very different, and such as, in themselves, might constitute a distinct substantive invention.[1]

It will frequently be a question of some difficulty, whether the particular arrangement or composition of matter is of the essence and substance of the invention; on the determination of this will frequently depend the question, whether an invention has or has not been infringed by another invention, having the same or similar objects, and producing the same or similar results. The determination of the particular character of the invention will depend simply on the specification, that is, on the obvious and reasonable construction which can be put on the words by which the patentee describes and ascertains the nature of his invention.[2]

Third class. III. An application and adaptation of natural or known agents, and of known substances or things.

Lord Dudley's. Letters-patent were granted (19 Jac., A. D. 1620,) to Lord Dudley, for his "mystery, arts, way, and means of melting iron ewre, (ore,) and of making the same into cast-works or bars of iron, with sea-coals or pit-coals, in furnaces with bellows;" they recite, that the invention consisted in the use of sea or pit-coal, instead of charcoal. From the brief description contained in the letters-patent, it appears that the invention was simply the substitution of pit or sea-coal for charcoal; that is, the application of the kind of coal to the manufacture of iron.[3]

Neilson's. In Neilson's patent, for the improved application of air to produce heat in fires, forges, and furnaces, where bellows

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[1] In the recent case of Neilson *v.* Harford, it was admitted that the apparatus employed was incomparably superior in its effects to that described in the plaintiff's specification, and such an improvement as would have supported a patent; but, as it involved the principle of the plaintiff's invention, it was held an infringement. Pat. Rep. 295, and *post*.

[2] See important instances of this in the case of Forsyth's patent, for the application of detonating powder to the discharge of fire-arms, (*post*); and of Hall's patent, for the application of the flame of gas to improve lace, by singing off the superfluous fibres, (*post*.)

[3] See this patent, and as to its exception, in the Statute of Monopolies. Pat. Rep. 14 – 16.

or other blowing apparatus are required, the invention consisted in the application of hot-air instead of cold, the air being heated in a closed vessel, and in its passage from the blast to the furnace.[1]

In Crane's patent, for an improvement in the manufacture of iron, the invention consisted in substituting anthracite in the blast-furnace, in the ordinary manufacture of iron by the hot-blast, for coke or bituminous coal.[2] Crane's.

In Derosne's patent, for improvements in extracting and refining sugar and syrups, the most valuable part of the invention consisted simply in the application of animal and other charcoal, as the medium of filter. The specification described the invention in the following manner: — "Whatever sort of charcoal it may be, it must be disposed on beds very thick, on a filter of any suitable form; the filter, of itself, has nothing particular, and does not form the object of the patent, because it is already known and used for other purposes, but until now it has not been used for discoloring[3] syrups." In this, as in many cases, the patents for improvements in the manufacture of iron, the invention is simply the application of a known substance; if the substance produced, rather than the mode of production, be regarded, these cases would belong to the first class, since the particular composition of matter so produced would be different from that previously obtained; but such a classification is not of a practical or useful character. Derosne's.

In Hartley's patent, (A. D. 1773,) extended by act of parliament, (17 G. III. c. 6,) for the method of securing buildings from fire, the invention consisted in the application of plates of metal and wire to the parts of buildings Hartley's.

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[1] See specification and report of proceedings on the patent. Pat. Rep. 273.

[2] The subject-matter of this invention may be referred to the first class, for the anthracite iron is a new article, or a new composition of matter; if it be considered as an old article, then the mode of production, by the combination of hot-blast and anthracite, or by the use of anthracite, is new. See *ante*, 12, and specification and report of proceedings on the patent. Crane *v.* Price, Pat. Rep. 375.

[3] This term is used in the sense of the French word *decolorer*, or of discharging the color. See Pat. Rep. 152 – 165.

and ships, so as to prevent the access of fire, the plates being laid over each other at the joints, and fastened in any known manner.[1] The essence and substance of the invention, in this case, was, the application of a known thing in a known manner, by simple contact, to obtain a known effect — protection from fire.[2] This case might have been arranged under the second class, as a particular arrangement or composition of matter, for the purpose of obtaining a certain result, namely, security from fire, but it seems to belong more properly to this class.

Watt's. In Watt's patent, for his improved method of lessening the consumption of steam and fuel in fire-engines, the invention consisted, among other things, in the application of a system of external casing and clothing to the cylinder, in the adaptation to the cylinder of a separate vessel, in which the steam was to be condensed, and of the air-pump, to draw off the elastic fluid from that separate vessel. The invention included other things, and might be considered, as has been already mentioned, under the second class, as a particular composition of matter, for the purpose of carrying out certain principles, but each of these separate applications contributed essentially to the practical result, namely, the diminution of the consumption of steam, and, consequently, of fuel, and, as such, might have been the subject-matter of letters-patent.[3]

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[1] The specification of this patent was as follows: — "My invention of a particular method of securing buildings and ships against the calamity of fire, is described in the manner following, that is to say, by the application of plates of metal and wire, varnished or unvarnished, to the several parts of buildings and ships, so as to prevent the access of fire and the current of air, securing the several joints by doubling, overlapping, soldering, rivetting, or in any other manner closing them up, nailing, screwing, sewing, or in any other manner fastening the said plates of metal into and about the several parts of the buildings and ships, as the case may require." See 17 G. III. c. 6; Pat. Rep. 54.

[2] The validity of this patent, in respect of the subject-matter, was fully discussed by Eyre, C. J., in delivering judgment in Watt's case, and placed on the same grounds as the patents for methods of operating and manufacturing, producing no new substance, and employing no new machinery. Boulton & Watt *v.* Bull, 2 H. Bl. 493 – 4.

[3] As to the subject-matter of Watt's patent, see Law & Practice, 46, n. *e*. See *ante*, p. 528, *n*.

In Forsyth's patent, for a "method of discharging or giving fire to artillery, and all other fire-arms, mines, chambers, cavities, and places in which gunpowder, or other combustible matter, is or may be put for the purpose of explosion," the essence of the invention was the application of detonating powder, a known substance, to produce a known effect. The specification described a mode of discharging the powder, or producing the explosion, but this was not the substance of the invention, as claimed, and the patentee succeeded in an action against a party who had adopted a different mode of effecting the discharge, from any described in the specification.[1] Forsyth's.

In Hall's case, for a method of improving every kind of lace or net, or any description of manufactured goods where fabric is composed of holes or interstices made from thread Hall's.

A substantial part of the invention, in Huddart's patent, was the substitution of a tube, through which all the yarns were brought for a new circle, which had been used before. On this we have the following important judgment: —

Lord Ellenborough, C. J.: — "Now the tube does seem to me an important difference from the mere circle, because it keeps the yarns in a degree of confinement for a greater time, and more certainly obtains the end pointed out in Mr. Balfour's specification; the same end is to be attained, and, had the patent been taken out for that to be done by a tube, which was before done by a ring or circle, I should have thought the patent good, for that is a distinct substantive invention." Huddart *v.* Grimshaw, Pat. Rep. 95.

[1] See Forsyth *v.* Riviere, Pat. Rep. 97.

The specification of Forsyth's patent states: — First, the chemical plan and principles of the invention, describing generally the manner in which the known chemical compound was to be applied and discharged, but disclaiming the invention of the compound itself, in the following words: — "But it is to be observed, that I do not lay claim to the invention of any of the said compounds or matters to be used for priming; my invention, in regard thereto, being confined to the use and application thereof to the purposes of artillery and fire-arms, as aforesaid." It then proceeds, as follows: — "And, secondly, I do hereby further declare, for the better illustration of my said invention, and as auxiliary to the use thereof, in relation to the mechanical parts thereof, that I have hereunto annexed drawings or sketches, exhibiting several constructions which may be made and adopted, in conformity to the foregoing plan and principles, out of an endless variety which the subject admits of." 11 Rep. Arts, 2d Ser. 401, and Pat. Rep. 96.

or yarn, as usually manufactured, of every description, whether fabricated from flax, cotton, wool, silk, or any other vegetable, animal, or other substances whatsoever," the substance of the invention was the application of the flame of gas, to singe off the superfluous fibres about the meshes of goods of the above description. This case furnishes a good illustration of those in which the question may be raised, whether the substance of the invention as described in and claimed by the specification, was, generally, the application of the flame of gas, or some particular mode of applying it; in the latter case, it would belong to the second class. The patentee succeeded in an action for infringement, on the evidence that the defendants, having recently started in the same line of business as the plaintiff, (clear-starching lace,) had the gas laid on to the premises in a peculiar manner, of which no explanation was furnished, and used a much larger quantity of gas than could have been required for the ordinary purposes of lighting.[1]

Lewis's

Letters-patent were granted (A. D. 1818,) to Lewis and another, for improvements on a machine for shearing cloth,

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[1] See Hall v. Jarvis & Francis Boot. Printed case; and Pat. Rep. 100.

The specification of this patent was as follows: — "My method of improving lace or net, or such other goods as aforesaid, is by passing them through, or at a very small distance over, a body of flame or fire, produced by the combustion of inflammable gas, while the said flame, or the intense heat thereof, is urged upwards, so as to pass through the holes or meshes of the lace or net, &c., by means of a current of air, which is produced by a chimney fixed over a flame, immediately above the lace or net, &c. The action of the flame is to burn, singe, and destroy as much of the said superfluous fibres, or fur, as may be removed without injury to the lace or net, or such other goods as aforesaid." The specification then gave certain directions for the trade, proceeding as follows: — The drawing hereunto annexed, represents a system of rollers, to operate upon lace or net, or such other goods as aforesaid, by the flame of inflammable gas (describing the drawing, &c.) The above apparatus or combination of machinery is conveniently adapted for the purpose of the said invention, but I do not claim the exclusive use of any apparatus or combination of machinery, except in connection with and in aid of the application of the flame of inflammable gas to the purposes above described in this specification." Pat. Rep. 98.

for which machine Lewis had a previous patent (A. D. 1815.) The specification described various things, but the most important part of the invention was the application of a rotary cutter, to shear the cloth from list to list. In an action for the infringement of this patent, it was objected, on the part of the defendant, that, the rotary cutter being old, and having been used to shear cloth from end to end, and cloth having been sheared from list to list by shears, the application of a rotary cutter to shear from list to list, was not a subject-matter for letters-patent. But this objection was overruled by Lord Tenterden, C. J., who said: "The case stands thus; it appears that a rotary cutter to shear from end to end was known, and that cutting from list to list by means of shears was also known; however, if, before the plaintiffs'· patent, the cutting from list to list, and the doing that by means of rotary cutters, were not combined, I am of opinion that this is such an invention by the plaintiffs as will entitle them to maintain the present action." [1]

In this case, then, the substance of the invention was the application of a known instrument, a rotary cutter, in a known manner — viz., to shear cloth from list to list.

Cases of simple applications.

In most of the cases which have hitherto been given, the means or machinery employed, if not of the substance or essence of the invention, has been of some importance; but there are a great number of cases in which the substance and essence of the invention consist in an application, requiring no composition of matter to put it into practice. Thus, in Daniell's patent, (A. D. 1819,) for improvements

Daniell's.

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[1] See Lewis & another *v.* Davis. 3 Car. & P. 502.

The patentees had a verdict, which was not disturbed; they also had a verdict in a subsequent action. (Lewis & another *v.* Marling.)

The decision in these cases fully established the important doctrine, that an invention may be infringed by adopting the same general idea, but carrying it out by totally different means. In this case, it was admitted that the machinery of the defendant was totally different from that of the plaintiffs, and the infringement consisted in the fact of the shearing from list to list, by a rotary cutter, without any reference to the machinery by which such shearing was produced. See 2 Lond. Jour. 2d Ser. 256.

in dressing woollen cloth, the invention consisted in immersing a roll of cloth, manufactured in the usual manner, in hot water; and, in Fussell's patent, the cloth was subjected to a steam bath, with the same object.[1]

Fussell's.

Hadden's.

In Hadden's patent, (A. D. 1818) for an improvement in preparing wool, the invention consisted in the application of heat to wool, by means of iron heaters within the rollers through which the slivers of wool passed; and, in Lister's patent (A. D. 1823,) the rollers were heated by steam.[2]

Lister's.

Crompton's

In Crompton's patent, for an improved method of drying and finishing paper, the substance of the invention was the use of a heated cylinder, against which the paper was conducted.

Christ's.

In Christ's patent, for "improvements in copper and other plate printing," the substance of the invention was in the preparation of the paper, and the particular means by which this was effected, as the damping the paper, is an application which would have been an invention sufficient to support the patent.[3]

In these, and many other cases, the substance and essence of the invention were the application and adaptation of a known agent, as heat, water, &c., for effecting great improvements in manufactures.

Omission of a substance

The omission of any ingredient previously used in and considered essential to any particular manufacture, would

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[1] The latter patent was held an infringement on the former, and both were repealed by *scire facias* for want of novelty.

[2] The invention was held substantially the same in both these cases, and both patents were repealed for want of novelty.

[3] Sturtz *v.* De la Rue, 5 Russ. 322.

Lord Lyndhurst, L. C.: "The title in this case is for certain improvements in copper and other plate printing. Copperplate printing consists of processes involving a great variety of circumstances. The paper must be of a particular description; before it is used it must be damped; it must remain damp a certain time, and must be placed in a certain temperature; the plate must be duly prepared and duly applied; and various processes must be gone through, before the impression is drawn off and brought to a finished state. An improvement in any one of these circumstances, in the preparation of the paper, for instance, as in the damping it, &c., may be truly called an improvement in copperplate printing." *Ibid.*

constitute a change in the series of processes pursued, and, consequently, a new manufacture; and the subject-matter of letters-patent for such an invention would properly belong to this class, as Campion's patent for "a new and improved method of making and manufacturing double canvas and sail cloth with hemp and flax, or either of them, without any starch whatever;"[1] or a use of the same thing, for the same object, but according to a different order of processes, as in dying patents.[2]

Two eras of inventions.

The class of cases which has just been illustrated, will be the most numerous class in an advanced state of the arts and manufactures of a country. When the manufactures are in their infancy, products which never before existed, results never before obtained, and effects never before produced, will be the subject-matter of letters-patent: this will constitute, as it were, the first era of invention; but ingenuity will then be directed to improvements in the mode of producing; to the obtaining the same products or results, and to the producing the same effects, in a more economical and beneficial manner: this will constitute the next or more advanced era of invention; and it is obvious that new applications of known agents and things must lead to such a change in the series of processes as will constitute a new manufacture.[3]

Every application not a subject-matter.

But although, in a large and continually increasing proportion of the patents, the substance of the invention will be an application of known agents or things, it is not every ap-

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[1] In this (as in several other of the preceding cases) the patentee failed, but it was, as in this case, in respect of want of novelty, or some defect in the specification, and not in respect of the alleged invention not being a proper subject-matter, if new and properly described in the specification. See remarks of the judges on this patent. Campion *v.* Benyon, 4 B. Moore, 71.

[2] In Helliwell's patent for water-proofing, the same substances were used, but in a different order. Helliwell *v.* Dearman, Pat. Rep. 401.

[3] See *ante*, 531.

The application, within the last few years, of electricity, for the transmission of signals, and copying seals and impressions, and gilding, and of light, for the purposes of photography, illustrate and confirm these remarks.

plication or every novelty which can constitute a new manufacture, and, as such, be a subject-matter of letters-patent. Many cases to which the term new applications may be applied, but which are not the subject-matter of letters-patent, have been designated by the terms double or new use; and, in general, wherever the term adaptation cannot be employed in connection with the term application, that is, wherever the only change is of so simple a nature, or so obvious, as to exclude all idea of skill, thought, or design; always supposing no new manufacture, as above described, to be the result — the application is not such as can be the subject-matter of letters-patent. It will, however, be necessary to consider this, or the more general question, what amount of invention is sufficient to support a patent, somewhat more in detail.

Amount of Invention.

Every change not an invention.

The subject-matter of letters-patent must possess the incident of novelty, or the principles of the common law and the words of the statute will not be complied with; and, further, the result to which it leads must be a new manufacture. But every novelty is not an invention which may be the subject-matter of letters-patent; the change must be such as may have resulted from the exercise of or given scope for thought, design, or skilful ingenuity. It is not necessary that either thought, design, skill, or ingenuity should have been exercised: the invention or discovery may have resulted from guess or accident;[1] and, in a great

[1] This has been fully recognized.

Thus, Lord Mansfield, C. J.: "Inventions are of various kinds; some depend on the result of figuring, others on mechanism, others depend on no reason, no theory, but a lucky discovery. Water tabbies were discovered by a man spitting on a floor-cloth, which changed its colors, whence he reasoned on the effect of mixing water with oil and colors." Bull. N. P. 76; Pat. Rep. 54.

Buller, J.: "The true foundation of all patents must be the manufacture itself, and so says the statute, (21 Jac. 1, c. 3,) and whether the manufacture be with or without principle, produced by accident or art, it is immaterial." 2 H. Bl. 486.

number of cases the whole invention is but the conception of the idea; and, whatever may have been the thought or labor before the idea was conceived, or the result attained in practice, yet, inasmuch as the result itself gives no evidence of thought or labor, neither may have been exercised. This is peculiarly the case with many of the inventions which are applications of known agents and things, and described above, under the third class. In most of these cases, the practical application of the idea is easy and simple, and will suggest itself as soon as the idea; in fact, the whole invention is realized as soon as the idea is conceived. In these cases, then, it is only necessary that the possibility of thought, design, and skilful ingenuity having been exercised, should not be excluded. The simple substitution of one material for another, as brass for copper, in any construction, may or may not be an invention or discovery which could be the subject-matter of letters-patent.[1] The peculiar

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J. Bell, K. C.: "It was not necessary to show that an invention was the result of long application or deep skill. He remembered that, many years ago, ladies wore flowered tabbies. The method of working the flower was discovered by mere accident; a man having spit upon the floor, placed his hot iron on it, and observed that it spread out into a kind of flower. He afterwards tried the experiment upon linen, and found it produced the same effect. He then obtained a patent, and lived to make a considerable fortune." 29 Rep. Arts, 2d Ser. 311.

Sir N. Tindal, C. J.: "In point of law, the labor of thought or experiments, and the expenditure of money, are not the essential grounds of consideration, on which the question, whether the invention is or is not the subject-matter of a patent, ought to depend. For, if the invention be new, and useful to the public, it is not material whether it be the result of long experiments and profound research, or whether by some sudden and lucky thought, or mere accidental discovery." Crane *v.* Price, Pat. Rep. 411.

[1] The following argument and illustration were used by an eminent counsel, (Mr. Leach, afterwards Sir John Leach, V. C.) in a case of an alleged improvement in the construction of barrels for containing gunpowder. "The making of an old machine with new materials could not be a discovery, and the plaintiff could claim no protection for an invention, the only merit of which consisted in being made of brass, instead of wood. When tea was first introduced into this country, earthen tea-pots were used, but could a person who made the first one of silver be entitled to a patent?" Walker *v.* Congreve, 29 Rep. Arts. 2d ser. 311.

Utility of the change a test.

circumstances of each case must be carefully examined, for the purpose of determining this question. The utility of the the change, and the consequences resulting therefrom, will afford the requisite tests.[1]

Colorable variations not *per se* insufficient.

Many of the supposed cases of insufficiency of invention have been cases of colorable variation from, and consequent infringement on, existing patents; this is a very different ground, and such changes might, under other circumstances, have been sufficient to support a patent. Thus, the immersion of cloth in a steam bath, with a view of damping it, was held an infringement on a previous patent for an improvement in the manufacture of cloth, by immersing it in hot water; that is, the substitution of steam for hot water was not, under the circumstances, a sufficient change or invention to support a patent. Also, the substitution of steam, as the means of heating hollow rollers through which the slivers of wool passed, was held an infringement on the practice of heating the hollow rollers by iron heaters.[2] If

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If the composition of matter now called a silver tea-pot had existed before the introduction of tea, and been used for making similar infusions from other ingredients, its appropriation or application to making tea could not have been the subject-matter of a patent, this being the double use of a known thing, as of a medicine celebrated for one disease to another; but, if such a composition of matter were not known, there might have been patents for a silver pot, as well as for the first earthen tea-pot. No one can say that a silver and an earthen pot are the same manufacture. See per Lord Abinger, C. B., Pat. Rep. 208.

[1] It was objected to Crane's patent, that the substitution of anthracite for coke or other coal, or the combination of anthracite and hot blast, was not a sufficient invention. But the Court of Common Pleas said: "We are of opinion, that, if the result produced by such a combination be either a new article, or a better article, or a cheaper article to the public than that produced before by the old method, that such combination is an invention or manufacture intended by the statute, and may well become the subject of a patent." Crane *v.* Price, Pat. Rep. 409.

[2] In R. *v.* Fussell, and R. *v.* Lister. See Law & Practice, 47.

The immersion of cloth in hot water, according to Daniell's patent, is said to have improved its value one guinea per yard; had the immersion in steam, according to Russell's patent, been attended with a still further improvement, it may be presumed that such a change, by virtue of the great utility thereof, would have been held a sufficient invention. See *post*, p. 559.

a particular arrangement, combination, or composition of matter, some independent instrument or machine, as described under the first class, or in connection with the carrying out into practice certain laws or principles, as under the second class, is the substance and essence of the invention, the mere substitution of one material for another will seldom be a change in the character of the invention. It is still a particular composition of matter, and any change in the kind or species of manufactured matter produces no change in the character of the invention.

What change not sufficient.

Also, if the change be immaterial or useless, that is, if the machine will do as well without it, or if some process, or series of processes, be not substantially affected thereby, so that neither a different result is obtained, nor the same result in a more economical or beneficial manner, that change will not be sufficient to support a patent.

In Arkwright's patent, one article, the filleted cylinder, was proved to have been used, both in the manner the defendant used it, and likewise when covered with card, and Buller, J., said: "If it were in use both ways, that alone is an answer to it. If not, there is another question, whether the stripe in it makes any material alteration? For, if it appears, as some of the witnesses say, to do as well without stripes, and to answer the same purpose, if you suppose the stripes never to have been used before, that is not such an invention as will support the patent." And, again, with respect to another article, the can, "if it be so, it brings the case to a short point indeed, for, if nothing else is new, the question is, whether it is material or useful. The witnesses on the part of the prosecution say it is of no use at all. In the first place, they had that before which answered the same purpose, though not made exactly in the same form — it was open at the top, it twisted round and laid the thread precisely in the same form, and had the same effect this had — so, if it was new, it was of no use; but they say it is not new, for, though it was not precisely the same shape, in substance it was the same thing; that is not contradicted."[1] The preceding remarks of the learned

[1] R. *v.* Arkwright. Printed case, 185; Dav. Pat. Cas. 137; and Pat. Rep. 73.

judge point out very distinctly what changes will not be sufficient to constitute such an invention as will support a patent; and furnish tests readily applicable to cases of that class.

A change sufficient, if an improvement in trade.

The following words of the same learned judge contain a better, because more general test: "If there be any thing material and new, which is an improvement in the trade, that will support a patent."[1] The words, "improvement of the trade," constitute a definition of the preceding, and it may be said that will be material and new which is an improvement in the trade, so that the preceding leads obviously to the conclusion, that any change which is conducive to a more beneficial result will support a patent; that result which is obtained more beneficially, using that term in the very wide and extended sense which it admits of, must be, in some respect or other, new. The improvement of trade is the great end and object of patents, and whatever conduces to this, is within the spirit of the common and statute law.

This question arises practically in actions for infringement.

The question of the sufficiency or insufficiency of an invention to support a patent does not often present itself under this distinct form, but indirectly, in actions for infringement.[2] The alleged piracy will, in general, contain, at the least, some colorable or formal variation, and the question will be, whether the change be colorable and formal, or substantial and essential; that is, whether it be such as would of itself support a patent; this question will be determined according as the jury are of opinion that the invention has or has not been infringed, or by a special finding, as that what is new is essential, or useless, and a colorable evasion. This is often a question of extreme difficulty and nicety, especially in the cases of minute additions to complicated machinery, or of the substitution of mechanical equivalents, or of one substance for another, in one of several processes, and in chemical cases; but an analysis of the case, with a view to classifying it under one of the preceding classes, will show whether, by reason of the change, the invention has acquired a distinct character.

The analysis already given of the words of the statute,

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[1] Ibid.; Printed case, 182; Pat. Rep. 71.

[2] See Brunton's case, *post*.

and the definition of the term 'manufacture,' as a particular series of processes pursued, renders any extended remarks on the applicability of the preceding to the various classes of cases unnecessary.

To a large proportion of the cases, especially of those included under the first and second classes, the words of the learned judge, in Arkwright's case, would be obviously applicable, and a little consideration will show that, in all cases, the sufficiency of the invention may be examined and ascertained by the principles there laid down, although the peculiar circumstances of some of the cases might be conceived to render the preceding observations less literally applicable, there being no combination of mechanical parts. But, whatever the peculiar form of the objection to the sufficiency of the change in Arkwright's case, it must be observed that the gist and substance of the objection is, that no new manufacture was thereby produced; the change, as specified, was not such as could be said to be sufficient to constitute a new manufacture; the cotton spun after this change would be essentially the same manufacture as that spun before; the change produced no manufacture which could be said to be material and new, or an improvement of the trade. It is the effect on the result which must be looked at, and not the change in the particular means or intermediate processes which contribute to that result. The change is insufficient, not because of its own minuteness, but because it fails to constitute a new manufacture.

A new manufacture the test.

In Lord Dudley's patent, the change was simply the substitution of pit-coal for charcoal; but that change constituted a new manufacture — new, both in respect of the constitution of the iron and its mode of production.

Dudley's.

The result also, in this case, was highly beneficial, for the wood of the country was nearly exhausted, and this discovery led to a totally new source of trade.[1]

In Neilson's, the change was, blowing the furnace with hot instead of cold air; and, in Crane's, the substitution of anthracite as the fuel where hot blast was used. Both these

Neilson's. Crane's.

[1] *Ante*, and Pat. Rep. 14. See also Mansell's patent for substituting coal for wood in the manufacture of glass. Pat. Rep. 17.

inventions introduced into use minerals previously intractable, and were thus of great benefit to the country.[1]

Derosne's. In Derosne's patent, the invention was the application of charcoal to filter sugar. Here an entire change took place in one process, and this would constitute a new manufacture. Sugar had never been produced in this way before.[2]

Hall's. In Hall's case, the application of the flame of gas to singing off the superfluous fibre of lace, constituted a new manufacture; this final process had, till then, been done in an imperfect and inefficient manner; but the result obtained was highly beneficial, and a great improvement in the trade.[3]

Daniell's. In Daniell's case, cloth, manufactured in the usual manner, was rolled up and saturated in hot water. This additional process constituted a new manufacture, and very much increased the value of the cloth. But the subsequent patent

Fussell's. of Fussell, for an improved manufacture of cloth, by immersing it in steam till it became saturated, was held an infringement. This change might be said to constitute a new manufacture, but the change of means was very obvious, and the result not superior to that obtained under the previous patent of Daniell.[4]

Change small, but result important. In these, and many other cases which might be mentioned, the changes, though apparently trifling, were extremely important in their consequences, and the results to which they led were new manufactures and great improvements in the trade. It is obvious, in all these cases, that no estimate can be formed of the amount of invention, except from the importance of the result, and that, though the exercise of thought, design, and ingenuity is not excluded, and probably took place, the merit of the invention is in having conceived and realized the idea, and derived means for carrying it out into practice, so as to constitute a useful invention.

Sufficiency depends on the result. The sufficiency of the invention, then, does not depend on the thought, labor, or skill, which has been bestowed upon it, but upon its having a distinct and independent character,

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[1] See *ante*, and Pat. Rep. 273 and 375.

[2] *Ante*, and Pat. Rep. 152.

[3] *Ante*.

[4] It was generally believed that the use of steam was neither so good nor so convenient, and only a colorable evasion.

and leading to results beneficial to the manufactures of the country.[1]

Sufficiency may be ascertained from the result.

But, though the amount of invention, and the consequent sufficiency of a change to support a patent, cannot be directly estimated or ascertained, they may be estimated and ascertained from the result; and, with this view, two things have to be considered, viz., the nature of the change and its consequences. The change may be considerable, that is, may, of itself, exhibit traces of thought, skill, and design; the consequences produced thereby may be important and considerable, or unimportant and inconsiderable; in the former case, both the means and the result may be new; in the latter, the means new and the result the same; in both cases there will be a sufficient invention. Next, the change, in itself, may be inconsiderable or minute, that is, exhibiting, of itself, no trace of thought, skill, or design; and the consequences produced thereby may be important and considerable, or unimportant and inconsiderable; in the former case both the means and the result will be new, and there will be a sufficiency of invention — in the latter, the means will be new, but the result unchanged, or there will be an insufficiency of invention. These four cases, the only cases which can occur, are all included in the following general proposition and practical test — that, whenever the change and its consequences, taken together and viewed as a sum, are considerable, there must be a sufficiency of invention to support a patent. Thus, when the change, however minute, leads to consequences and results of the greatest practical utility, as in the case of Dudley's, Crane's, Hall's, and Daniell's patents, the above condition is satisfied; but if the consequence, as in the case of Fussell's, be inconsiderable, the change also being inconsiderable, and such as would most readily suggest itself to any one, the condition is not fulfilled, and the invention is not sufficient to support a patent.[2]

If the change and its consequences as a sum are considerable.

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[1] See *ante*, p. 552, *n*.

[2] This consideration of the change and its consequences in connection, will be found sufficient, and consistent with all the cases. See Law & Practice, 11.

The consideration of the change alone is quite inadequate. See *post*.

The utility the real test.

The utility, then, of the change, as ascertained by its consequences, is the real practical test of the sufficiency of an invention; and, since the one cannot exist without the other, the existence of one may be presumed, on proof of the existence of the other. Whenever, then, utility is proved to exist in a very great degree, a sufficiency of invention to support a patent must be presumed. And the fact of one invention having come into use to the exclusion of another of prior date, and apparently extremely similar, will lead to the presumption that there was some difference, and a sufficient difference to support a patent — the one invention having failed, and the other having come into use.[1]

Sufficiency of invention may be presumed from great utility.

Cannot be presumed from apparent change

The following important practical conclusion may be derived from the preceding, namely, that the sufficiency of an invention cannot be judged of or ascertained by the apparent amount of thought, design, or skill, which may or may not have been exercised in producing it. In many cases, as those in which the invention consists in the application of some known substance or thing, the result can exhibit no trace of the thought, design, or labor expended, however great it may have been; and, in those cases in which the result itself may exhibit traces of that thought and design, as in some complicated piece of machinery, or elaborate composition of matter, that result may turn out to be useless, and so the invention, which is to all appearances most sufficient, may, in fact, be most insufficient.[2]

Brunton's case.

The difficulties in which this question is involved, and the necessity of recourse to other tests and considerations than the apparent design or amount of invention, cannot be better illustrated than by the celebrated case of Brunton's patent.[3] In this case, the question of the sufficiency of an invention to support a patent, was much considered, and the learned

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[1] This was the principle of the decision in Hullett *v.* Hague. (2 B. & Ad. 370.)

There were two patents, extremely similar, for improvements in evaporating sugar; the one had failed, but the other had come into use.

[2] If an invention be useless, the letters-patent will be void, whatever the skill or ingenuity which has been exercised. See Law & Practice, 117 and 118.

[3] Brunton *v.* Hawkes, 4 B. & Ald. 341.

judges drew some very minute and subtle distinctions, of great practical importance in similar cases.

The letters-patent were "for improvements in the constructing of ships' anchors and windlasses, and chain cables or moorings." The windlass was admitted to be new, and the jury found the chain cable and the anchor to be new and useful. A rule *nisi* was granted for a new trial, on the grounds of insufficient invention to support a patent, both in the cable and anchor; and the new trial was granted on the latter ground only.

The first chain cables (Captain Brown's) were made with twisted links, a wrought-iron stay being fixed across the middle of the opening of each link, to keep it from collapsing.

The chain cable.

The invention in Brunton's cables consisted in making the links with straight sides and circular ends, and in substituting a cast-iron stay with broad ends, adapted to the side of the link, and embracing them. The particular form of link and the broad-ended stay were adopted from considerations respecting the action of forces, and the nature of the strains to which cables were subjected, which were fully set forth in the specification. On this part of the invention, Abbott, C. J.: "As at present advised, I am inclined to think that the combination of a link of this particular form with the stay of the form which he uses, although the form of the link might have been known before, is so far new and beneficial as to sustain a patent for that part of the invention, if the patent had been taken out for that alone."

Bayley, J.: "The improvement in that respect, as it seems to me, is shortly this: so to apply the link to the force to operate on it, that that force shall operate in one place, namely, at the end; and this is produced by having a bar across, which has not the defect of the bar formerly used for similar purposes. The former bars weakened the link, and they were weak themselves and liable to break, and then, if they broke, there might be a pressure in some other part. Now, from having a broad-ended bar, instead of a conical one, and having it to lap round the link, instead of perforating it, that inconvenience would be avoided; and,

therefore, the present impression on my mind, as to this part of the case, is, that the patent might be supported."

Best, J., doubted whether the patent could be supported in respect of the chain cable, on the ground that the specification claimed the form of the link as new, and had not confined the claim to the use and introduction of the stay between the links, embracing the sides instead of entering them.

The substitution of a broad-headed for a pointed stay in the link of the cable a sufficient invention.

The above learned judges were agreed, that the substitution of the stay or bar was, under the circumstances, a sufficient invention to support the patent; and the utility of this substitution, in respect of the result, and in connection with the principles which were to be carried out by that substitution, is very prominently adverted to by all of them. The change was but small, but the principles upon which it was adopted, as set forth in the specification, exhibited traces of thought and design having been exercised about it, and the evidence at the trial proved the superiority of that chain cable above those of Captain Brown, who had himself adopted the improvement. So that the general observations of Buller, J., and the practical tests to which they lead, are applicable to, and were fully recognized in, this case.

The anchor.

The invention in respect of the anchor consisted in making the two flukes or arms in one piece, with such a thickness of metal in the middle, that a hole might be pierced through it for the insertion of the shank, instead of joining the two flukes in two distinct pieces, by welding to the shank; the hole being made conical or bell-mounted, so that no strain could separate the arms from the shank, by which means the mischief to the materials, from repeated heating, was avoided, only one heating being necessary to unite the end of the shank perfectly with the sides of the conical hole. With respect to this, Abbott, C. J.: "The mode of joining the shank to the flukes of the anchor is, to put the end of the shank, which is in the form of a solid cylinder, through the hollow and conical aperture, and it is then made to fill up the hollow, and to unite itself with it. Now, that is precisely the mode by which the shank mushroom anchor is united to the mushroom top, by which the shank of the adze anchor is united to its other parts. It is, indeed, the

mode by which the different parts of the common hammer, and the pick-axe, also, are united together. Now, a patent for a machine, each part of which was in use before, but in which the combination of the different parts is new, and a new result produced, is good; because there is a novelty in the combination. But here the case is perfectly different; formerly, three pieces were united together; the plaintiff only unites two; and, if the union of those two had been effected in a mode unknown before, as applied in any degree to similar purposes,[1] I should have thought it a good ground for a patent; but, unfortunately, the mode was well known, and long practised. I think that a man cannot be entitled to a patent for uniting two things instead of three, where that union is effected in a mode well known and long practised for a similar purpose. It seems to me, therefore, that there is no novelty in that part of the patent, as affects the anchor; and, if the patent had been taken out for that alone, I should have had no hesitation in declaring that it was bad."

The simple application of a mode known and practise for a similar purpose, not a subject-matter.

Bayley, J.: — "As to the ship's anchor, in substance, the patent is, for making in one entire piece that which formerly was made in two. The two flukes of the anchor used to consist of distinct pieces of iron, fastened to the shank by welding. In the present form, the flukes are in one piece, and, instead of welding them to the shank, a hole is made in the centre, and the shank introduced through the hole. Could there be a patent for making, in one entire piece, what before had been made in two pieces? I think not;[2] but if it could, I think that still this would not be new. In the mushroom and adze anchors, the shank is introduced into the anchor by a hole in the centre of the solid piece; and, in reality, the adze

The making in one piece that which had been made in two, not a subject-matter.

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[1] The words of the chief justice, as applied in any degree to similar purposes, and the subsequent illustration, are very important; the law requiring originality of idea and conception — as in the application of explosive mixture in Forsyth's case, of gas in Hall's, and of charcoal in Derosne's. See *ante*, 546 – 550.

[2] This dictum of the learned judge must evidently be received and applied with great caution; for many cases may occur, in which the doing this very thing would be a most important new manufacture — the avoiding a joining may be most essential and material.

anchor is an anchor with one fluke, and the double-fluke anchor is an anchor with two flukes. After having had a one-fluked anchor, could you have a patent for a double-fluked anchor? I doubt it very much. After the analogies alluded to in the argument of the hammer and pick-axe, I do not think that the mere introducing the shank of the anchor, which I may call the handle, in so similar a mode, is an invention for which a patent can be sustained. It is said, in this case, that the mushroom anchor and adze anchors are not ship's anchors, but mooring anchors. I think they are ship's anchors; they are not, indeed, such anchors as ships carry with them, for the purpose of bringing the ship up; but if the ship is required to be stationary at a particular place, then the common mode of making it stationary is by the mushroom anchor. So the mode adopted to bring a ship, containing a floating light, to an anchor, is by mooring her to one of these mushroom anchors. That is the description of an anchor for a hold-fast to the ship. The analogy between the case of the mushroom anchor and of the adze anchor is so close to that of the present anchor, that it does not appear to me that this discovery can be considered so far new, as to be the proper ground of a patent. In reality, it is nothing more than making in one piece what before was made in two, and introducing into this kind of anchor the shank, in the way a handle is introduced into a hammer or pick-axe."

Best, J. : — "Then, as to the anchor, the invention claimed is, that he avoids the welding; but that certainly is not new, because that has been done before, in the case of the mushroom and adze anchor, the pick-axe, and the common hammer. It is said, however, that his invention consists in the application of that which was known before to a new subject-matter, namely, that he had, for the first time, applied to the manufacturing of anchors a mode in which welding was avoided, which, however, had been long practised in other instances, to which I have before alluded; but he does not state that as the ground upon which he had applied for his patent, nor state in the specification, that, it being known that the process of welding weakens the anchor, he had first applied to an anchor a mode long practised in the manufacture of other instruments, namely, of

Application of a known mode to a new subject-matter.

making the two flukes of one piece, instead of two. If he had so described his process, the question would then arise, whether that would be a good ground for a patent. I incline to think, however, that, it having been long known that welding may be avoided in instruments of a similar form, the application of that practice, for the first time, to a ship's anchor, cannot be considered a new invention, and, therefore, that it is not the ground of a patent."

Application of known practice to similar purpose.

The judges were unanimous in their opinion, that the patent, in respect of the improvements in the anchor, could not be supported; that the application of a mode, well known and generally used in several of a class of cases, to one particular case of that class, did not constitute some manner of new manufacture, within the meaning of the statute. If the sufficiency be judged of only from the invention, which the results themselves, the cable and the anchor, exhibit, the substitution of a conical end to the shaft, and of a conical hole in the piece constituting the two arms, whereby the pieces were supposed to be more securely united, is as great a change as the substitution of a broad-headed for a pointed stay across a link. And yet there can be no doubt that the invention in the cable was of a much higher order than in the anchor. The improvement in the cable was the carrying out into practice certain important principles respecting the action of forces, by the substitution of the broad-headed for the pointed stay, in a link of a particular form. The improvement in the anchor was the avoiding the welding, by means well known and practised in cases extremely similar. There was originality of idea in the application of the broad-headed stay, as subsidiary to the principles for the improvement of the chain-cable, as laid down in the specification, but there was no originality of idea or of method in avoiding the welding, this being borrowed from cases which would obviously and immediately present themselves.

It should also be remarked, with the view of pointing out whatever may have contributed to the subtle distinctions which were drawn in this case, that evidence of the great superiority of the cable was given at the trial, but nothing appears to have been said respecting the anchor. And this has been confirmed by the result, for the cable is

in constant and general use, but anchors are made as before the patent.

This case is much relied on, whenever the sufficiency or insufficiency of an invention is in question, either directly or indirectly; but, in applying this, as all other decisions on patents, great care is requisite; and, unless the peculiar circumstances of each case are fully examined and comprehended, the greatest uncertainty will prevail.[1]

Saunders's. In Saunders's patent, for improvements in buttons, the specification stated that the improvements consisted in the substitution of a flexible material, in the place of metal shanks, on buttons, and described a mode of substituting the one for the other, by means of a collet; but the use of the collet was not claimed as part of the improvements, and a flexible shank was old. So that, in this case, the only invention claimed was the substitution of one known thing for another, a flexible for a metal shank, both having been in use before. A button was old; and any invention must, therefore, have reference to the mode of manufacture, and the mode described in the specification was not claimed as new.[2]

Kay's. In Kay's patent, for new and improved machinery for preparing flax, hemp, and other fibrous substances, by power, the specification declared the invention to consist in new machinery for macerating the flax, &c., and also in improved machinery for spinning the same. The inven-

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[1] It would be very easy to point out instances, in which decisions in one case have been applied to other cases, without any regard to the peculiar circumstance of each case; and this has mainly contributed to the opinion, so often expressed, of the obscurity and uncertainty of the Law of Patents. See Parl. Rep. A. D. 1829.

[2] Saunders *v.* Aston, 3 B. & Ad. 881.

The real invention, in this case, was the substitution of a flexible shank by the special aid of the collet, and, had this been properly claimed in the specification, the patent would have been good.

Littledale, J.: — "Neither the button nor the flexible shank was new, and they did not, by merely being put together, constitute such an invention as could support the patent. It is contended, that the operation of the collet, under the present patent, is new, but that is not stated in the specification as the object of his invention, and it is, in fact, only one mode of carrying it into effect." *Ibid.*

tion, in respect of the latter object, consisted in placing the retaining and drawing rollers nearer to each other than was usual, and at assigned distance; but, inasmuch as the rollers were usually made capable of movement, and adjustable at variable distances, the Court of Common Pleas were of opinion, that the fixing them at an assigned distance was not a good subject-matter; or, in other words, that spinning at a particular distance did not constitute a new manufacture, it having been the practice to spin at variable distances.[1]

Many other cases have been already mentioned, in which the sufficiency of the invention was really in question, and the general conclusion from them is, that any change, however minute, if leading to a beneficial result in the arts and manufactures, is sufficient to support a patent.[2]

Novelty and Non-user.

The question of novelty has already been, in a great measure, considered, but the words of the statute not only render novelty an essential incident of the subject-matter, but also explain and qualify it, in a manner which is of great practical importance. By the statute, letters-patent are to be granted for the "sole working or making of any manner of new manufactures, which others, at the time of making such letters-patent and grant, shall not use;"[3] and there is a condition in the letters-patent themselves, for rendering them void if the invention be not a new invention, as to the public use and exercise thereof, within that part of the United Kingdom for which the letters-patent are granted.[4] Thus the incident of novelty is qualified, explained, and

Novelty defined as non-user.

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[1] Kay *v.* Marshall, Pat. Rep.

The substance of the invention, in this case, was spinning at a much less distance than had before been done, namely, at about two and a half inches, in conjunction with maceration; but the specification did not thus describe and claim the invention. *Ibid.*

[2] See *ante.*

[3] 21 Jac. 1, c. 3, s. 6; Law & Practice, 45.

[4] See Law & Practice, 80, n. k.

interpreted by the incident of non-user; and that will be new, within the meaning of the words of the statute, and of the letters-patent, which is discovered then for the first time, or which is communicated to others then for the first time, whether discovered by a person's own wit and ingenuity, or learned from abroad.[1]

The time at which the invention must be new.

The invention must, according to the words of the statute, be new at the time of the grant of the letters-patent; and these generally bear date the day of affixing the great seal; but, by an early statute, (18 H. 6, c. 1,) they may bear date the day of the delivery of the warrant from the crown, the Privy Seal Bill, into Chancery, but not before that day; and the Chancellor will, on petition, order them to bear the date of this delivery, but he cannot order an earlier date.[2] This, considering the delay which may occur in the progress of the letters-patent through the different offices,[3] and the law that user or publication of the invention, before the date of the letters-patent, would vitiate them, has been much commented upon by practical men as a hardship, and endangering of their invention.[4]

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[1] This exception, in favor of a communication from abroad, is an essential part of the common law, and within the policy of the statute, which was intended to encourage new devices within the realm, and, whether learned by travel or by study, the country is equally benefited, provided a new manufacture be introduced. See Edgbury *v.* Stephens, Pat. Rep. 35; also, per Eyre, C. J., 2 H. Bl. 491.

[2] See Statute Law & Practice, 33; and *In re* Cutler's Patent, Pat. Rep. 418.

This statute was passed to prevent certain practices prevalent, in respect of grants of lands and offices, whereby letters-patent were antedated, and parties in possession unjustly deprived. But, in the case of letters-patent for inventions, it is occasionally productive of hardship, as where a party has been delayed, by circumstances over which he had no control, in passing his patent through the offices.

[3] From a month to six weeks. See Law & Practice, 15.

[4] See Parl. Rep. on Patents.

This evil is practically much less than at first sight may appear, from the caution which inventors exercise. But still, in cases where workmen must be employed, the disclosure to a rival in trade, or publication to the world, may subject the real inventor to much annoyance, though the law would ultimately render him safe and secure in his rights.

Publication independent of user.

It has not yet been decided how far the publication of an invention, independent of any user, would vitiate a subsequent patent. A project or scheme may have been published as likely to succeed, but, notwithstanding such publication, may never have been tried; would this publication vitiate the patent of a person, who, without seeing this book, or receiving any suggestion, hits upon this same project, and finds it a useful invention, and introduces it into actual use and exercise?[1] By the words of the statute, user by others at the time of the grant, is the criterion of novelty, so that the words of the statute include all cases of re-invention. In the great fluctuations to which manufactures are subject, a process or mode of manufacture, once in constant use and exercise, may be totally lost sight of; he who brings this again into use, renders the same service to the manufactures of the country as he who invents that which was never before known. The words of the statute also include those cases in which projects have been abandoned after many experiments, and an independent inventor or successful competitor, availing himself of what has been before done, perfects the project, and brings the invention into use.[2]

The letters-patent contain a proviso by which the grant is voidable, "if the said invention is not a new invention as to the public use and exercise thereof," without any reference to time.[3]

The very difficult and important question of novelty in connection with user, was presented in the following luminous manner, by Sir N. Tindall, C. J., in a recent case:[4] "It will be for the jury to say whether the invention was or

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[1] It is generally assumed that publication in any printed book would vitiate a subsequent patent, but this seems to rest on the presumption that the subsequent inventor learnt it from such book.

[2] See per Tindall, C. J., in Galloway *v.* Bleaden, 15 Rep. Arts, N. S.; Law & Practice, 81, and Pat. Rep.

[3] The Courts would probably hold the proviso to have reference to the time of the grant, so as to render it consistent with the statute.

It may be doubted whether the condition contained in this proviso, as usually inserted in the letters-patent, be legal; but it appears to be wholly unnecessary. Brown *v.* Annandale, Pat. Rep. 443.

[4] Cornish *v.* Keene, Pat. Rep.

was not in public use and operation at the time the patent was granted. There are certain limits to this question. A man may make experiments in his own closet — if he never communicates these experiments to the world, and lays them by, and another person has made the same experiments, and, being satisfied, takes a patent, it would be no answer to say that another person has made the same experiments; there may be several rivals starting at the same time; the first who comes and takes a patent, it not being generally known to the public, that man has a right to clothe himself with the authority of the patent, and enjoys the benefit of it. If the evidence, when properly considered, classes itself under the description of experiment only, that would be no answer. On the other hand, the use of an article might be so general as to be almost universal; then you can hardly suppose any body would take a patent. Between these two limits most cases will range themselves, and it must be for the jury to say, whether the evidence convinces their understanding that the subject of the patent was in public use and operation at the time the patent was granted."

Public use defined.

These words were explained by Lord Abinger, C. B., as follows, in a recent case:[1] "What is meant by public use and exercise is this — A man is entitled to a patent for a new invention; if his invention is new and useful, he shall not be prejudiced by any other man having invented that before and not made any use of it. So that the meaning of public use is this — a man shall not, by his own private invention, which he keeps locked up in his own breast, or in his own desk, and never communicates it, take away the right that another man has to a patent for the same invention. Public use means this — that the use of it shall not be secret, but public."[2]

Secret invention.

An invention practised in secret, is not such a user as will vitiate the patent of a subsequent and independent inventor; and there are many other cases of the same class — as, where an invention has been long known and practised, within the premises of the inventor, by his own workmen

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[1] Carpenter *v.* Smith, Pat. Rep.

[2] See, on this subject, Pat. Rep. 44, and Jones *v.* Pearse, ibid. 124.

and servants. Such knowledge and practice, so far as the public are concerned, are a perfect secret. This important doctrine was fully recognized in a recent case, in which a set of paddle-wheels were made in the inventor's premises, under injunctions of secresy; and, when finished, were taken to pieces, packed up, and sent abroad, and there used. The Court of Exchequer held, that this was not a user which would vitiate a subsequent patent; and Mr. Baron Parke, in delivering judgment, said: "The words of the statute are, that grants are to be good for the sole working or making of any manner of new manufacture within the realm, which others, at the time of making such grants, did not use; and the proviso in the patent in question, founded on the statute, is, that, if the invention be not a new invention as to the public use and exercise thereof in England, the patent should be void. The word 'manufacture,' in the statute, must be construed in one of two ways; it may mean the machine when completed, or mode of constructing the machine. If it mean the former, undoubtedly there has been no use of the machine, as the machine, in England, either by the patentee himself or any other person, nor indeed any use of the machine in a foreign country, before the date of the patent. If the term 'manufacture' be construed to mean the mode of constructing the machine, there has been no use or exercise of it in England, in any sense which can be called public. The wheels were constructed, under the direction of the inventor, by an engineer and his servants, with an injunction of secresy, on the express ground that the inventor was about to take out a patent, and that injunction was observed; and this makes the case so far the same as if they had been constructed by the inventor's own hand, in his own private workshops."[1]

In this case, the workmen were under the injunction of secresy, it being the intention of the inventor to take out a patent; so that all which was done previously was in the nature of an experiment, the patent being taken out as soon as the success of the invention was ascertained. But the principles of the preceding cases are also applicable to those

[1] Morgan *v.* Seaward, Pat. Rep. 194.

User in premises of the inventor without publication.

cases of inventions long known and practised by the inventors, within their own premises, and by their own servants and workmen, but without any injunctions as to secresy, or the intention of taking out a patent; and which inventions become the subject of subsequent patents to other and independent inventors. It would seem that such patents may be valid, there having been no user which can be said to be public, the grantee being an independent inventor. A user by the inventor, without letters-patent, would effectually vitiate any subsequent patent obtained by him, but the case of a subsequent inventor who had had no means of knowing of this prior invention and user, is very different; the law not recognizing any exclusive right or property in an invention not protected by letters-patent.[1]

Utility.

The question of utility as an incident of an invention, and its importance as a practical test of the sufficiency of that invention, has already been fully considered. It remains only to point out in what manner some degree of utility is, both by statute and common law, rendered an essential incident of every invention which is the subject-matter of letters-patent. The statute, having defined the nature or class of inventions to which letters-patent may be granted, adds the words, "so as also they be not contrary to law or mischiev-

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[1] This curious and difficult question has never yet been before the Courts; but the conclusion to which the cases lead us is of great importance. The policy of the law, if this conclusion be correct, must be sought in the consideration that the grant of letters-patent is intended rather as a benefit to the public than a reward to the inventor; and that, if he omit to inform the public of a useful invention which may become lost by reason of such neglect, he must forfeit the privileges incident to such a disclosure, to a subsequent inventor, who instructs the public, by enrolling a record of his invention, in the manner prescribed by law.

But *quære*, whether the original inventor could be restrained from continuing to use it in the same manner? The statute (21 Jac. 1, c. 3) did not alter the common law. See suggestion of Dallas, J., in Hill *v.* Thompson, Pat. Rep. 240.

ous to the state, by raising prices of commodities at home, or hurt of trade, or generally inconvenient;" and these words seem to express the old common law of the realm.[1] Till very recently, no precise construction has been put upon these words, but many cases have been mentioned as within their scope and meaning, as, for instance, an invention requiring or supposing a practice in contravention of some statute, or contrary to religion and public morals.[2] But cases, not open to objections on such grounds, may be conceived, in which the monopoly granted by letters-patent of an invention totally useless would be to the hurt of trade, and generally inconvenient, as fettering improvement in some particular branch of the arts and manufactures. Thus Parke, B., in delivering the judgment of the Court, says: "A grant of a monopoly for an invention which is altogether useless, may well be considered as mischievous to the state, to the hurt of trade, and generally inconvenient, within the meaning of the statute, which requires, as a condition of the grant, that it should not be so; for no addition or improvement to such an invention could be made by any one, during the continuance of the monopoly, without obliging the person making use of it to purchase the useless invention; and, on a review of the cases, it may be doubted whether the question of utility is any thing more than a compendious mode, introduced in comparatively modern times, of deciding the question whether the patent be void under the statute of monopolies; and the Court does not mean to intimate any doubt as to the validity of a patent for an entire machine or subject, which is, taken altogether, useful, though a part or parts may be useless, always supposing that such patent contains no false suggestion."[3]

Uselessness may vitiate.

The uselessness of parts of an invention will not vitiate letters-patent, if a result, on the whole beneficial, be obtained;[4] nor will the uselessness of an original invention vitiate letters-patent for an improvement thereon, since the

Uselessness of parts.

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[1] See 11 Co. Rep. 86 b; and Pat. Rep. 197.

[2] See Law and Practice, 50, note *i*.

[3] Morgan *v.* Seaward, Pat. Rep. 197.

[4] Haworth *v.* Hardcastle, 1 Bing. N. C. 189.

defect may be cured by this subsequent patent.[1] In all the decisions connected with this subject, the Courts have been guided by their opinion as to what would or would not tend to an improvement of the trade.

Review of Practical Proceedings.

Review of practice.

The various matters treated of in the preceding pages may be illustrated and confirmed, by a review of the practice of obtaining letters-patent. The party soliciting the letters-patent represents to the crown that he is in possession of an invention, which, as he believes, is new, and will be of great public utility.[2] Thus the conditions of novelty and of utility are at once introduced, as material and essential; the failure of either of them would be a ground for avoiding the letters-patent, as having been obtained on false suggestion.[3] Upon this representation, and on the consideration that it is entirely at the party's own hazard, whether the invention is new, or will have the desired success, and that it is reasonable for the crown to encourage all arts and inventions which may be for the public good, the law officer of the crown recommends the grant, with a proviso, requiring the inventor, within a certain time, to cause a particular description of the nature of his invention, and in what manner it is to be performed, to be enrolled in the Court of Chancery.[4] This proviso gives rise to the specification, upon which instrument so much depends; for, if it does not satisfy the terms of this proviso, and, further, is not a full and fair disclosure of all the inventor knows, the letters-patent will be void.[5]

Suggestions to the crown.

The specification.

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[1] Per Lord Tenterden, C. J., Lewis *v.* Davis, 3 Car. & P. 502.

[2] See Pr. Forms, 1; Law & Practice, 65.

[3] The ordinary grounds of false suggestion are, the representation that he has invented more, or something different from, that which he really has invented. See Law & Practice, 77, n. *d.*

[4] See Pr. Forms, VI.; Law & Practice, 71.

[5] As to the form and requisites of the specification, see notes to Pr. Forms, XIV.; Law & Practice, 86. See Pat. Cases, 8, n., and 36, n. *c.*, as to the origin of the specification.

Various conditions.

It is of some importance to distinguish the various requisites and conditions, in respect of the subject-matter of letters-patent. The nature of the subject-matter is defined by the statute; novelty is an essential requisite, introduced by the statute, and, if the invention be altogether useless, the letters-patent will be voidable, under the statute, as prejudicial and generally inconvenient; so that the invention must possess some degree of usefulness. This incident of utility, introduced by the statute somewhat indirectly and by implication, is rendered essential, by reason of the suggestion of that incident in applying for the grant, and the adoption of that suggestion by the crown. The condition for the enrolment of the specification, introduced at the suggestion of the law officer of the crown, in comparatively recent times,[1] might be dispensed with under extraordinary circumstances, on the suggestion of the same authority; but the specification being intended for the benefit and protection of the public, it is highly improbable that letters-patent, without this condition, will ever again be granted.[2]

Such being the manner in which this clause is introduced, the form and effect of it are important to be observed. Until the specification is enrolled, the crown and the public are equally ignorant of the nature of the invention, except so far as it may be disclosed by the title of the invention contained in the letters-patent, and this, in general, conveys no information, beyond pointing out to what department of the arts and manufactures the invention relates.

The nature of the invention distinct from the means.

The proviso recognizes a distinction between the invention and the means by which the invention is carried into practice — the inventor is to describe and ascertain the nature of his invention, and in what manner the same is to be performed. Now, it has been already pointed out,[3] that an invention may have a character independent of the means by which it is carried out or reduced into practice;

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[1] About 11 Anne; Law & Practice, 6. See Pat. Cases, 36, n. *a*.

[2] See per Lord Eldon, L. C.; Law & Practice, 71; *Ex parte* Heathcote *In re* Lacy, Pat. Cases, 431.

[3] *Ante*, p. 543.

the description of that invention must also follow the distinctions there adverted to, and, by an attentive regard to these distinctions, the specification will be such as strictly to satisfy the condition or proviso of the letters-patent. It has been raised, as a ground of objection to a patent, that parts of the apparatus described in the specification were invented subsequently to the date of the letters-patent; but this objection has been overruled, on the grounds that time is given to an inventor to prepare his specification, for the express purpose of allowing him opportunity of maturing the practical details of his invention.[1] This doctrine is consistent with the justice of the case; for it must be remembered that the necessity of secrecy, prior to the sealing of the letters-patent, renders proper experiments extremely difficult. Further, this doctrine is not only consistent with, but a necessary consequence of, the views advanced in the preceding pages, respecting invention. And here the question presents itself, when, consistently with the language of the petition, a person may be said to be in possession of an invention. This may be truly said to be the case, so soon as the party has satisfied *himself* of the applicability in practice to the peculiar requirements of the case, or the truth, or law, or property of matter proposed to be applied. A correct acquaintance with these truths, laws, and properties, combined with some experience in practical inventions, will enable a party to say, with confidence, that he is in possession of an invention, although it may never have been put into actual practice.[2] This view of the case is consistent with the history of invention generally, from which, so far as we can judge, it would appear that many of the greatest improvements have been the result of accident, rather than of design.[3]

Subsequent invention of means no objection.

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[1] See in Crossley *v.* Beverley, Pat. Cas. 112, and per Tindal, C. J., in Jones *v.* Heaton, 11 Lon. J. C. S.

[2] Many inventions do not admit of such a practical test in the first instance. Take the case of an improvement in the manufacture of iron, requiring a new furnace to be erected, and the expenditure of much time and money, to try a single experiment of a really practical nature. See Pat. Cases, 402.

[3] The perception of what is wanted, or of the defects of an existing manufacture, is generally the real difficulty to be overcome.

The patent a reward.

It is also important to remark, that letters-patent may be considered in the light of a reward, for having found out and introduced into public use and exercise something not before known, whereby either a new trade is brought into the realm, or fresh channels for the employment of capital and industry are opened; and there is this advantage in a reward of this nature, that it is exactly proportioned to the value of the invention to the public. If the invention be useless, it is soon lost sight of, and the patentee derives no benefit from it; but if it be of great utility, and come into general use and exercise, the patentee receives a corresponding reward.

The Principle of an Invention.

A principle *per se* not the subject-matter of letters-patent.

The use of the term "principle," in reference to the subject-matter of letters-patent, has given rise to so much discussion, that some remarks upon it may not form an improper conclusion to this part of the subject. It is said, most truly, that there cannot be a patent for a principle; that a principle must be embodied and applied, so as to afford some result of practical utility in the arts and manufactures of the country, and that, under such circumstances, a principle may be the subject of a patent.[1] In a

[1] The fair mode of looking at a patent and the specification is, to inquire what is the spirit of the invention, or the principle, and this must be embodied in some mode or method, because it is admitted, on all hands, you cannot take out a patent for a principle. But, although the law says, undoubtedly and correctly enough, that you cannot take out a patent for a principle, that is, for a barren principle, when you have clothed it with a form, and given it body and substance, in which the principle may live, and produce the benefit which you claim to result from it, why then, in many cases, (and it is a consolation to every just and honest feeling one has on the subject of invention,) although you cannot have a patent for a principle in substance, you can have a patent for the spirit of your invention; for, if any other person comes and clothes the spirit of your invention with a differerent body, and puts that principle in use in any other shape or fashion, it is always a question for a jury, whether, however different in appearance, in shape, in form, in method — whether the article or the practice, if it

The principle of an invention and the principle embodied distinguishable.

Truths of exact and laws of physical science.

certain sense, indeed, a principle, so embodied and applied, may be considered as the subject of a patent, but it is that embodiment and application which is, in reality, the subject-matter of the patent. The principle, so embodied and applied, and the principle of such embodiment and application, that is to say, the principle of the invention, are essentially distinct; the former being a truth of exact science, or a law of natural science, or a rule of practice; the latter, the practice founded upon such truth, law, or rule. The want of a due appreciation of this distinction was the foundation of much of the discussion which occurred in the proceedings on Watt's patent, but the distinction was fully recognized and adopted by Mr. Justice Buller, in the following passage:[1] — "There is one short observation, arising on this part of the case, which seems to me to be unanswerable, and that is, that, if the principle alone be the foundation of the patent, it cannot possibly stand, with that knowledge and discovery which the world were in possession of before. The effect, the power, and the operation of steam, were known long before the date of this patent; all machines, which are worked by steam, are worked by the same principle. The principle was known before; and, therefore, if the principle alone be the foundation of the patent, though the addition may be a great improvement, (as it certainly is,) yet the patent must be void *ab initio*. But then it was said, that, though an idea or principle alone would not support the patent, yet that an idea reduced into practice, or a practical application of a principle, was a good foundation for a patent, and was the present case. The mere application, or mode of using a thing, was admitted, in the reply, not to be a sufficient ground; for, on the court putting the question, whether, if a man, by science, were to devise a means of making a double use of a

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be matter connected with the arts and manufactures, be or be not, substantially, an adaptation of the principle, applied with the same view, to answer the same end, and merely imitated in substance, whatever differences there may be in point of form. See per Sir F. Pollock, Pat. Cases, 145. See, also, in proceedings on Neilson's patent, *ibid.* 342.

[1] 2 H. Bl. 485, 486. See, also, *ante*, p. 522, n. 2.

thing known before, he could have a patent for that, it was rightly and candidly admitted that he could not.[1] The method and the mode of doing a thing are the same, and I think it impossible to support a patent for a method only, without having carried it into effect, and produced some new substance. But here it is necessary to inquire, what is meant by a new principle reduced into practice? It can only mean a practice founded on principle, and that practice is the thing done or made, or, in other words, the manufacture which is invented." The assertion, then, that there cannot be a patent for a principle, amounts, in effect, to nothing more than an assertion, that a truth of exact, or a law of natural science, or a rule of practice, is not any manner of manufacture; the discovery and enunciation of such truth, law, or rule, may be a valuable addition to our knowledge, but it cannot be described as the working or making of some manner of new manufacture, which alone can be the subject-matter of letters-patent.

Principles distinguishable into classes.

The term "principle" admitting of the above-mentioned varieties of construction and interpretation, according to the circumstances under which it is used, it becomes important to advert to certain other distinctions, existing in the nature of the principles which are to be embodied and applied, so as to constitute invention, which may be the subject of letters-patent. Those principles which may be defined and classified as truths of exact science, or laws of natural science, are, in their nature, especially distinct from those which may be defined as rules of practice; the former having, so to speak, an independent and original existence,[2] the latter being derived from and originating altogether with man, and, as such, of necessity, partaking in some degree of the character of invention. Further, the truths of exact or mathematical science differ from the laws of natural science in this — that the former are founded on definition, the latter on observation and experiment — and both differ from

[1] As to the case of a new application, which may be properly described as a double use, and which cannot be the subject-matter of letters-patent, see Pat. Cases, 208, n. *f*.

[2] See the observations of Mr. Baron Alderson on the subject, Pat. Cases, 342, and *post*.

the class of principles which have been described as rules of practice.

Instances. Hadley's sextant.

The instrument known by the name of Hadley's quadrant, or sextant, furnishes a good illustration of the embodying and application of the truth of exact science and of a law of natural science, namely, of certain propositions of geometry for the measurement of angles, and of the laws of light when incident on and reflected by plane surfaces inclined to each other. The principle of this invention was the arranging and combining inclined reflecting surfaces, and certain radii and arcs of a circle, so as to give effect to such truths and laws for the measurement of the angular distance of objects; the principle, then, of this invention is a rule whereby these truths of exact science and laws of natural science become embodied.[1] In the same manner, Dollond's invention[2] of the achromatic object glass was founded on certain truths of exact science respecting curved surfaces, and the laws of light when refracted by those surfaces; the combining a convex lens of crown glass and a concave lens of flint glass, of proper curvatures, was the rule of practice by which these object glasses were made.

Dollond's object glasses.

Clegg's gas meter.

The principle of Clegg's invention of a gas meter partakes, to a certain extent, both of a law of natural science and of a rule of practice. The laws of natural science, respecting the motion of a solid immersed in a fluid, are applied in conjunction with certain rules of practice for the admission and emission of gas, and the opening and closing of certain orifices for that purpose, and the result was an apparatus for measuring the quantity of gas supplied.[3]

The oscillation of the pendulum takes place according to the laws of falling bodies, and the vibration of the balance according to the laws of elasticity of bodies; these principles

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[1] The beautiful toy called the Kaleidoscope depends, in like manner, on the laws of the reflection of light, incident on and reflected by two plane mirrors, inclined at a small angle to each other; the objects and the eye being situated between the mirrors, in such a position that each object gave a number of images on the circumference of a circle.

[2] See specification of this invention, Pat. Cases, 43.

[3] See specification and description of the invention, Pat. Cases, 103, and *post*.

are embodied in our ordinary clocks and watches. The laws of latent heat, of the rapid evaporation of liquids in vacuo, of the union of certain substances chemically, in definite proportions, and of electricity, have given rise to a great variety of useful inventions, in which these laws respectively are embodied. Such truths, laws, or principles, having an existence anterior to, and independent of, the operations of man, cannot, of themselves, be the subject of letters-patent; but, when they have been embodied or applied in practice to a particular purpose, then the invention to which they give rise is properly described as founded on those laws, and the principle of the invention is the practice whereby those laws are enabled to produce useful effects. Thus, the inventions of Watt were applications of the laws of the elasticity and of the latent heat of steam; and a great variety of other instances might be adduced, in which well known principles[1] are, so to speak, embodied and clothed, or connected with a material form, for some particular and specified purpose in the arts and manufactures, and so as to be in a condition to act and to produce effects.

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[1] It is of considerable importance that the meaning of the term principle, when applied in the strictest sense as above described, should be distinctly understood. For this purpose, it may be well to add a few illustrations of the truths of exact science, and of the laws of physical or natural science. All propositions founded on definitions, and to which, by reason of their being so founded, the term "demonstration" is applicable, are truths of exact science; as the well-known propositions of geometry, that, in a right-angled triangle, the square of the hypothenuse is equal to the sum of the squares of the opposite sides; that the angle at the centre of a circle is double the angle at the circumference; or that similar triangles are to each other in the duplicate ratio of their homologous sides. The truths or laws of natural science differ from the preceding in this, that they are not founded on definition, or capable of demonstration in the strict sense of the term; they are rules derived from observation, and describing what will take place under particular circumstances. Thus, we speak of the laws of falling bodies, that is, the rules respecting their motions; of the laws of the atmosphere, of light, of electricity, all which are merely rules derived from observation; we learn by experience that such phenomena, under certain circumstances, will present themselves, and, one state of things being supposed, we are able to anticipate and predict the following.

Such being the import of the term principle, as applied to inventions founded on the truths of exact science and laws of natural science, it remains to consider the use of that term, with reference to those cases where no truth of exact science or law of natural science is embodied, but where the arrangements and rules of practice are not referable immediately, if at all, to such truths or laws, but to certain rules of practice. The cases placed in the first and third classes will illustrate inventions founded simply on a rule of practice, in contradistinction to inventions founded on a truth of exact, or a law of natural science. Thus, the principle of Arkwright's invention was the use and arrangement of certain known things, in a particular manner, for spinning cotton.[1] The principle of Huddart's invention was the compressing the yarns and drawing them through a tube.[2] The principle of Jupe's,[3] for an expanding table, was the cutting the table across, and making the parts to diverge from the centre, and withdrawing the sections, and filling up the openings by leaves or suitable pieces. The principle of Galloway's improvements in machinery for propelling vessels[4] was the arrangement of parts for giving different positions to the float boards, during the revolution of the paddle-wheel; and the principle of the invention under his second patent[5] was the arrangement of float boards in a fixed position, according to an assigned law or rule. In all such cases, the principle of the invention is the particular arrangement, combination, composition, or application, according to the rule of operation and construction, by which the working or making of the manufacture, the subject of the letters-patent, is to be carried out in practice. The cases placed under the third class serve to illustrate those inventions, the principle of which may be said to be founded simply on a rule of practice, and not on any truth of exact,

Ark-wright's case.

Huddart's.

Jupe's.

Galloway's two patents

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[1] See Pat. Cases, 56.

[2] *Ibid.* 85.

[3] *Ibid.* 143.

[4] See in Morgan *v.* Seaward, Pat. Cases, 166; and Lord Brougham's judgment in the Privy Council on extending the patent. *Ibid.* 727.

[5] See in Galloway *v.* Bleaden, 15 Rep. Arts. N. S., and Pat. Cases, 521.

or law of natural, science. In many of the cases under the third class, the principle of the invention is the application or adaptation of some known property or quality of a substance; as in Forsyth's patent,[1] where the principle of the invention was the application of detonating powder in discharging artillery; and in Hall's, the application of the flame of gas to singing lace.[2] Thus, in every class of cases, the dictum of Buller, J.,[3] that a principle reduced to practice, and a practice founded on principle, are really the same thing, is fully supported.[4]

The appropriation of a principle.

An important practical question arises with reference to many of the cases which have been placed under the second and third class,[5] as to the extent to which the inventor can appropriate to himself the application of the truth of exact science, or the law of natural science, or the rule of practice constituting the peculiar feature of his invention. In respect of the truths of exact science, or laws of natural science, independent of their application, no invention which is the subject of letters-patent, or special property, so to speak, can exist. The question then arises, to what extent may such truth or law, by reason of its application, be appropriated, and the answer is, to the extent of all other applications which a jury shall consider as a piracy of the former. It is impossible to lay down any general rules on this point; the subject does not admit of being so dealt with, and it should always be borne in mind, with reference to the law of patents, that each case must be judged of by its peculiar circumstances. The following observations, by Mr. Baron Alderson, in the recent proceedings on Neilson's patent,[6] are deserving of peculiar attention, and exhibit, in a

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[1] Pat. Cases, 97.

[2] *Ibid.* 97.

[3] *Ante*, 45.

[4] If any further observations were necessary in support of the preceding, it might be remarked that the phrases, "the principle of my invention consists in," or "my invention consists in," naturally suggest themselves in many cases indifferently, as synonymous expressions in describing an invention, thus showing that, substantially and practically, there is no difference in these phrases.

[5] *Ante*, pp. 535, 544.

[6] See report of this case, Pat. Cases, 342.

clear manner, the difficulties of the case: "I take the distinction between a patent for a principle, and a patent which can be supported, is, that you must have an embodiment of the principle, in some practical mode, described in the specification, of carrying the principle into actual effect, and then you take out your patent, not for the principle, but for the mode of carrying the principle into effect. In Watt's patent, which comes the nearest to the present of any you can suggest, the real invention of Watt was, that he discovered that, by condensing steam in a separate vessel, a great saving of fuel would be effected, by keeping the steam cylinder as hot as possible, and applying the cooling process to the separate vessel, and keeping it as cool as possible, whereas, before, the steam was condensed in the same vessel; but then Mr. Watt carried that practically into effect, by describing a mode which would effect the object. The difficulty which presses on my mind here is, that this party has taken out a patent, in substance like Watt's, for a principle — that is, the application of hot air to furnaces — but he has not described any mode of carrying it into effect. If he had, perhaps he might have covered all other modes as being a variation. It is very difficult to see what is a patent for a principle, and for a principle embodied in a machine, because a patent can only be for a principle embodied in a machine. You cannot take out a patent for a principle. I have always thought that the real test was this: that, in order to discover whether it is a good or a bad patent, you should consider that what you cannot take out a patent for must be considered to have been invented *pro bono publico* — that is to say, the principle must be considered as having had an anterior existence before the patent.[1] Now, supposing, in Watt's case, it had been known that to condense in a separate vessel was a mode of saving fuel, then Watt certainly would have taken out a patent for carrying into effect that

[1] The following observation of the same learned judge is important with reference to this question: — "You see you do not interfere with any benefit which the inventor has, if he knows of no particular mode of carrying his principle into effect. You do not interfere with any benefit which he ever had, if he never had a practical mode of carrying it into effect." Printed case, 4to. p. 198.

principle by a particular machine; but then his patent would have been for a machine, and, if I invented a better machine for carrying out the principle, I do not infringe his patent, unless my machine is a colorable imitation. But you must embody the principle in the machine, and you stop all possible improvements, because you infringe the principle, which you have no right to do — it is the principle of the machine. It is very difficult for a jury to distinguish that, but it is the most essential thing possible. Now, here, supposing that it had been known that hot air applied to a furnace was a great improvement on cold air, and that this person had taken out his patent, and this patent was a patent for the application of a well-known thing — the hot air to furnaces — then he takes out a patent for applying it, by means of an intermediate reservoir between the blast furnace and the bellows; then, surely, any body else may apply the same principle, provided he does not do it by a reservoir intermediately between the blast furnace and the bellows — and the question for a jury is, whether or not a long spiral pipe is a reservoir — if it be not a reservoir, or a colorable imitation of a reservoir, it is no infringement."

The appropriation of a principle.

The same learned judge, in another case, the proceedings on Jupe's patent,[1] remarked, with reference to Clegg's gas meter,[2] as follows: — "There never was a more instructive case than that. I remember very well the argument put by the Lord Chief Baron, who led that case for the plaintiff, and succeeded. There never were two things to the eye more different than the plaintiff's invention, and what the defendant had done in contravention of his patent-right. The plaintiff's invention was different in form — different in construction; it agreed with it only in one thing — and that was, by moving in the water, a certain point was made to open, either before or after, so as to shut up another, and the gas was made to pass through this opening — passing through it, it was made to revolve it. The scientific men, all of them, said, the moment a practical scientific man has got that principle in his head, he can multiply, without end,

[1] Jupe *v.* Pratt, Pat. Cases, 146.
[2] Pat. Cases, 103.

the forms in which that principle can be made to operate. The difficulty which will press on you, and to which your attention will be called in the present case, is this: you cannot take out a patent for a principle — you may take out a patent for a principle, coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect. But then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as piracy of your original invention. But then the difficulty which will press on you here is, that, on the evidence, there does not appear to have been any mode of carrying the principle into effect at all invented by you."

The attention of this learned judge having been called, in the recent proceedings on Neilson's patent, to his former remark, his lordship observed, that he should more correctly have said, "that you take out a patent for a mode of carrying a principle into effect." But the peculiar circumstances of Jupe's patent do not seem to require any such qualification, nor was any such made, in speaking of the analogous case of Clegg's invention. The occasion appears fully to explain the introduction of that qualification. In the proceedings on Neilson's patent, the learned judge was speaking of those philosophical principles which are the common property of all; in the proceedings on Jupe's patent, he was speaking of the principle of the particular invention, which was the cutting a table into four segments or sections, and causing them to diverge, and filling up the intermediate spaces, so as to constitute an expanding table, and which, in its very terms, implies that which is the subject of a patent.[1]

Questions of this nature are difficult to deal with in the

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[1] See *ante*, p. 542. It was a question, in this case, whether the specification claimed any thing in respect of the means by which the divergence was to be effected — that is, anything beyond the mere cutting the table into four sections, which should be made to diverge, and filled up as above described in the text. See Pat. Cases, 56.

abstract, but the same difficulty does not present itself in the practical form in which the question generally arises — namely, in a contest between two inventors, in an action for an infringement. In such cases, the question is, whether a mode subsequently invented and adopted is a substantial and independent invention, or only a colorable variation, and borrowed from the previous invention. In the determination of this question, the character of the original invention, the merit to be attributed to its author, the means by which the principle is carried out, the object of its application and the end attained, the success and utility of the prior invention, and the comparative merits of the two inventions, are all elements for the consideration of the jury. The well-known truths of exact science, and the laws of natural science, and the properties and qualities of matter, are the common property of all; the applications or adaptations of such to the various wants of man, constitute inventions which are the subject of letters-patent. But there are general truths, laws, properties and qualities, not yet discovered; the person who discovers any such, and also applies and adapts them, is an author of a much higher order and more distinguished merit than he who applies and adapts what is already known. The property, however, which such an one can in law acquire, by reason of such discovery and application, does not differ in extent from that of the preceding class. But, in deciding the practical question of infringement by a subsequent invention, a very different estimation is necessarily made of the two; he who applies and adapts knowledge before in the common stock, is, *prima facie*, entitled to less consideration than he who brings into the common stock the knowledge which he applies.[1] In such cases, however, it is essential that the principle should be given to the world, and also, further, that the means should be fully described, and that the means, as described, should be sufficient for the purpose. It not unfrequently happens, that the principle is kept back, and that

Practical questions of appropriation.

[1] This consideration, however, is again controlled by the benefit which may have been conferred on the public — that is, by the utility of the invention.

certain arrangements only, without any general rule, are given to the world. If this be from ignorance, the invention is merely a fortunate accident, and the merit is comparatively small, and little advantage is conferred on the public; if from design, then, though the merit may be great, the inventor does not comply with what the law requires, and, moreover, fails to secure his invention, to the extent which he otherwise might.

The discovery of truths of exact science, or of laws of natural science, is an event of rare occurrence, and within the opportunities and powers of few; but fresh applications of such truths and laws are of constant occurrence, and exercise the powers of a large class of individuals.[1] But the principal source of inventions consists in the application of the known qualities of known substances. With respect to many of these, the question arises, to what extent is the use or application of those substances appropriated by the inventor? This question was raised in the recent proceedings on Walton's patent[2] for improvements in cards. It had occurred to Mr. Walton, that the bed in which the teeth are set, requires a certain degree of elasticity and flexibility, so as to allow of the teeth yielding to any obstacle with which they meet in the operation of carding. This idea having suggested itself, the giving that elasticity and flexibility to the backs of cards, by means of caoutchouc or Indian rubber, would naturally occur to a person acquainted with the properties of that substance, and a patent was taken

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[1] The following illustration of the discovery of two laws of physics in recent times, and of the practical application of those laws, is mentioned by Mr. Carpmael, in his work on the Law of Patents. Dr. Faraday discovered that carbonic acid gas, under a pressure of several atmospheres, assumed a liquid form; Sir H. Davy discovered that, on the application of heat to this liquid, vapor of great expansive force was produced, which was readily condensed by contact with cold surfaces, and he was led to observe, that these properties might, probably at no very distant period, be rendered available for working machinery. Sir M. I. Brunel subsequently invented an engine, worked by the elastic force of the vapor of condensed carbonic acid gas, by alternately bringing heat and cold to act by a peculiar arrangement for this purpose.

[2] Walton *v.* Potter, 1 Scott's N. R. 90; and Pat. Cases, 604, 606 and 610.

out for improvements in the manufacture of cards, the invention consisting in giving to the backs elasticity, derived from caoutchouc or Indian rubber. The discovery of the want of the quality of elasticity in the backs of cards, must be regarded as the important feature in this case, and it was remarked by one of the learned judges, in the course of the argument, that the claim in Walton's specification was more limited than necessary; it might have been for giving the property of elasticity to the backs of cards, that not having been done before, from whatever source that elasticity is is derived, and in whatever manner contributed. Such a claim, however, would, in the opinion of Mr. Baron Alderson, have amounted to a claim for a principle. In the proceedings on Neilson's case, that learned judge said — "If you claim every shape, you claim a principle. There is no difference between a principle to be carried into effect in any way you will, and claiming the principle itself. You must claim some specific mode of doing it. Then the rest is a question for the jury."[1]

What is a claim to a principle.

The above remark is strictly applicable to the case now under consideration; in Neilson's case, the suggested claim was of hot air to furnaces, however applied; in Walton's case, the suggested claim was of elasticity to the backs of cards, from whatever source derived. The decision of the Court of Exchequer, in Neilson's case, is an express authority that a claim of the kind last mentioned would be a claim for a principle. The court said — "It is very difficult to distinguish it from the specification of a patent for a principle, and that, at first, created, in the minds of some of the court, much difficulty; but, after full consideration, we think that the plaintiff does not merely claim a principle, but a machine embodying a principle, and a very valuable one too. We think the case must be considered as if, the principle being well known, the plaintiff had first invented a mode of applying it, by a mechanical apparatus, to furnaces; and his invention then consists in this — by interposing a receptacle for heated air between the blowing apparatus and the furnace. In this receptacle, he directs the air to be

[1] See in Neilson *v.* Harford, Pat. Cases, 355.

heated, by the application of heat externally to the receptacle, and thus he accomplishes the object of applying the blast, which was before of cold air, in a heated state, to the furnace."[1] It may, however, be asked, to what does this amount, but to an illustration of the manner in which the proviso in the letters-patent is to be complied with?—namely, that the inventor shall particularly describe and ascertain the nature of his invention, and in what manner the same is to be performed. The mere announcement of the idea that a furnace should be blown with hot instead of cold air, would not, in itself, be the subject of letters-patent, nor would it be a compliance with the proviso as to the specification. And, in the course of the argument in Neilson's case, the Lord Chief Baron observed — Suppose it was a patent in these words: 'A patent for an invention by which air shall be heated, before it enters the furnace. I do not claim a patent either for the material or the shape; but the air must pass through a process of heating, before it enters the furnace.'"[2] And, again, "I suppose, in making the specification, he considered that it was proper to propose some mechanical illustration of his principle. But suppose he had said this — My invention consists in the application of heated air to the furnace, by means of any of the methods by which air is now heated, or any other method, allowing air so heated to pass through a tube or aperture to the furnace. Probably he apprehended that, if he stated specifically any form of heating air, he might then have infringed on some other patent; therefore, supposing he had said simply — My invention consists in the application of heated air, by making the air pass through a heating process, before it arrives at the furnace, but I do not intend to describe the form of the receptacle; I leave that to the local circumstances and judgment of the parties to deal with such matter, stating only that the hotter you get the air the better.'"[3] It is impossible to read these observations of the learned Chief Baron, except as a judgment that a claim to the application of hot air, in whatever manner applied, might be a good

What amounts to a claim to a principle.

[1] Neilson *v.* Harford, Pat. Cases, 371.
[2] Printed case, 4to. 181.
[3] *Ibid.* 185, 186.

claim. And, in connection with this, it is material to observe, that Neilson was the first to discover the advantage resulting from the use of hot air; since, so far as blast furnaces were concerned, it was generally believed that cold air was more advantageous than hot, and expensive contrivances were resorted to for keeping the blast cold, the generally observed fact of the furnaces doing better in winter than in summer, being referred to the circumstance of the air being colder; the real cause being that the air contains much less vapor in winter than in summer.

In the preceding cases of Clegg's, Jupe's, and Neilson's inventions, it must be observed that the inventor was also the discoverer of the principle, or leading feature of the invention, and this creates a material distinction between this and the other class of cases of common occurrence, in which the party is not the discoverer of the principle, but, the principle being well known, he is the inventor of its application. To a certain extent, the invention in Clegg's case comes within this class; the law of natural science on which it partly rests, namely, that of the motion of a solid, of less specific gravity than the fluid in which it rests, being well known. The principle of the invention, however, is more extensive than this, since it includes the alternate filling and discharging of the vessel of gas, as the remark of Mr. Baron Alderson, above cited, clearly shows; on the whole, therefore, in that case, the party was the discoverer of a principle, as well as the inventor of the means. But several cases have occurred, in which, the principle being well known, and the quality and use of the substance notorious, invention has existed in respect thereof. In these cases, inasmuch as no exclusive privileges can exist, in respect of the law, property, or quality, it becomes necessary to consider the object with which, the means by which, and the end for which, the application takes place.

Applications of a known law or quality.

The proceedings on Kneller's patent[1] furnish an illustration of cases of this kind. The invention was an application of the well-known law of physics, that the evaporation of a liquid is promoted by a current of air; for instance,

[1] Hullett *v.* Hague, 2 B. & Ad. 370.

that, if the air be calm, the evaporation from the surface of water goes on slowly, compared to the evaporation which takes place when the surface is acted on by a brisk breeze, the fact being, that the evaporation is obstructed according to Dalton's views, partly by the mechanical obstruction of the particles of air, but principally by the superincumbent atmosphere of vapor; in proportion, then, as the latter is removed by the motion of the air, evaporation goes on more rapidly. The extension or modification of this general principle, by forcing air into the lower part of a liquid, for the purpose of thereby occasioning an increased evaporation, was made the subject of experiments, which were communicated to the Royal Society in 1755, and published in their Transactions.[1]

In 1822, a patent was granted to Knight and Kirk, for "a process for the more rapid crystallization and for the evaporation of fluids, at comparatively low temperatures, by a peculiar mechanical application of air." The specification, having stated the general inconveniences of applying heat to fluids, described the invention to consist in propelling a quantity of heated air into the lower part of the vessel containing the liquor, and causing such heated air to pass through the whole body of the liquor in finely divided streams, by the means of perforated pipes, coiled, or otherwise shaped and accommodated to the nature or form of the vessel through which the air from the blowing apparatus should be forced into the liquid. This invention was not brought into use, and appears to have failed altogether. In 1828, Kneller had a patent for "certain improvements in evaporating sugar, which improvements are also applicable to other purposes;" the specification declared the invention to consist in forcing, by means of bellows, or other blowing apparatus, atmospheric, or any other air, either hot or cold, through the liquid or solution subjected to evaporation, by means of pipes, whose extremities reach nearly to the upper or interior area of the bottom of the pan, or boiler, containing such liquid or solution.

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[1] See an account of the great benefit of blowing showers of fresh air up through distilling liquors, in the Phil. Trans. vol. xlv. p. 312.

In an action for the infringement of Kneller's patent,[1] it was urged, on the part of the defendant, that Kneller claimed, as an original invention, that which was but an improvement on a prior patent; but Lord Tenterden, C. J., and the court, sustained the patent, being of opinion that the methods described in the two specifications were essentially distinct. In applying the above decision, it must be observed that the prior invention had failed and been abandoned; at all events, it was not in use. Had the former invention succeeded, but little doubt can be entertained that, in a contest between the two patents, the latter would have been held to be an infringement on the former; for it must be observed, that the object with which, and the end for which, the air was introduced, were the same in the two cases, and the variations in the means were such as would obviously suggest themselves to any mechanic, who set himself about devising different means of introducing the air. And, in further confirmation of this remark, it may be observed that, in Neilson's case, though the object was the same, the detail of the means by which the result was obtained was very difficult, and the result attained immeasurably superior.

Result of the cases.

The uncertainty in which the preceding decisions would appear to leave the question, to what extent a principle may be secured, is more apparent than real, and no case has occurred in which letters-patent have been held to be vitiated, by reason of the generality of the claim. Questions of this kind can only be decided on the special facts of each case. It has been suggested,[2] that, from the result of the cases, it would appear that the courts are guilty of the apparent absurdity of saying, "You cannot have a patent for a principle, *eo nomine*, but, if you come before us in modest guise, disclaiming any right to a principle, then, if you have really invented one, we will take care individually to protect you in the exclusive enjoyment of it." But this apparent discrepancy vanishes, if the distinction above suggested, respecting the use of the terms, be adopted. A prin-

[1] Hullett v. Hague, 2 B. & Ad. 370.

[2] See 6 Jur. 330. See also in the same work, p. 433, a notice of a case, (Arnott v. Perry,) which seems to illustrate and confirm some of the preceding remarks.

ciple, *eo nomine*, is but the enunciation of a proposition or fact; the principle of the invention is the embodiment of that proposition or fact in a practical form, and, as such, may, in some cases, be ensured to the inventor in its fullest extent.

ON THE TITLE OF THE INVENTION.

An invention, which is the subject of letters-patent, having been made, the next question is, as to the terms in which it should be described by a party, on applying for letters-patent. The party, soliciting the royal grant, represents or suggests to the crown that he has invented something, or is in possession of an invention, for some specific purpose or object.[1] The terms in which he describes that thing, purpose, or object, is called the title of the invention, and of the letters-patent subsequently granted. The requisites of the title are thus described by Lord Chancellor Lyndhurst:[2]

Requisites of the title.

"The description in the patent, (that is, the title,) must, unquestionably, give some idea, and, so far as it goes, a true idea, of the alleged invention, though the specification may be brought in aid to explain it." This doctrine has been recognized and explained in a recent case.[3] The title was "improvements in carriages;" the invention was improvements in fixing and adapting German shutters, in those descriptions of carriages to which such shutters were applicable. The Court of Queen's Bench held, that the title was too large, the invention not applying to all carriages; but the Court of Exchequer Chamber reversed that decision, and held, that mere vagueness and generality in a title, without any evidence leading to an inference of fraud, was not a ground for avoiding the patent.

Ambiguity and generality.

In the recent proceedings on Neilson's patent, it was objected that the title, "an improved application of air to produce heat in fires, forges, and furnaces, where bellows or other blowing apparatus are required," was not a proper

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[1] *Ante*, p. 574.

[2] In Sturtz *v.* De la Rue, 5 Rus. 327; Law & Pr. 66.

[3] In Cook *v.* Pearce, 8 Jur. 499; 13 Law J. (N. S.) Q. B. 189; M. S. S.

description of an invention which had reference simply to the temperature of the air when applied, such an invention being the application of improved air, and not an improved application of air; that the invention so described might have extended to the use of a refrigerating, as well as a heating apparatus. But the Court of Exchequer held, that this title was sufficient; that, though ambiguous, it was explained and reduced to a certainty by the specification, and not at variance with it.[1]

The above cases will show the general requisites of the title, and to what extent it may be explained and reduced to certainty by the specification. But in order to point out to inventors, certain considerations by which they must be guided in choosing and in determining on the title of their invention, it will be necessary to advert to the principles of law applicable to this subject, and to call attention to the cases which have occurred, and to the grounds upon which they were decided.

False suggestion.

If a party has not invented that which he represents or suggests to the crown that he has invented, and upon which representation and suggestion the letters-patent are granted, the crown has been deceived, and the consideration for the grant fails; he may have invented something else which is very useful, but it must be that for which the letters-patent are granted. And this rule is founded on public policy and justice, otherwise there would be no certainty in the grants of the crown, and great practical injustice and inconvenience would result.[2]

Wheeler's patent.

In the case of Wheeler's patent,[3] "for a new and improved method of drying and preparing malt," the invention was of a coloring matter to be derived from malt, and not of any improved method of drying or preparing that well-known substance. The specification described an invention which consisted in submitting malt, prepared by the ordinary process, to a high degree of temperature, and then producing a coloring substance for beer. Thus there was a false

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[1] See Pat. Cases, 333 and 373.

[2] See *post*.

[3] The King *v.* Wheeler, 2 B. & Ald. 349.

suggestion to the crown, and a clear inconsistency between the letters-patent and specification; the invention was of something different from what was represented.

Felton's. In the case of Felton's patent,[1] for a "machine for sharpening knives, scissors, and razors," the invention, as described in the specification, was inapplicable to scissors. Here there was false suggestion in law; the invention made and described in the specification was not co-extensive with that for which the letters-patent were granted. The real defect, in this case, was in the specification omitting to describe the modification of the machine requisite for sharpening scissors; there was no false suggestion in fact, the party having made the invention represented, but omitted to describe it.

Jessop's. On the same principle, letters-patent for a watch, the invention being only of a particular movement, was held void.[2]

Galloway's In Galloway's patent, assigned to Morgan,[3] "for improvements in steam-engines, and in machinery for propelling vessels, which improvements are applicable to other purposes," it appeared that one of the inventions was not an improvement in steam-engines generally. Mr. Baron Parke, in delivering the judgment of the Court of Exchequer, said: "We cannot help seeing, on the face of this patent, as set out in the record, that an improvement in steam-engines is suggested by the patentee, and is part of the consideration of the grant; and we must reluctantly hold, that the patent is void, for the falsity of that suggestion."[4] The above title is also open to the objection of ambiguity. The title may apply to improvements in all steam-engines, or only to improvements in steam-engines in connection with machinery for propelling vessels. On the specification being looked to, for the purpose of explaining the title and reducing it to certainty, the former appeared to be the invention intended.

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[1] Felton *v.* Greaves, 2 Car. & P. 611.
[2] Jessop's case, cited 2 H. Bl. 493.
[3] Morgan *v.* Seaward, Pat. Cases, 166.
[4] Ibid., 196.

The judgment in the preceding case recognized the decision on Brunton's patent,[1] for "certain improvements in the construction, making, and manufacturing of ships' anchors and windlasses, and chain cables and moorings," which was held bad, part of the invention, namely, the anchor, not being new. The decision, in that case, rested on the ground of false suggestion and failure of consideration, the novelty of the whole being the consideration of the grant, and the failure thereof in any part or degree vitiating the grant. Brunton's.

In the case of Campion's patent, for "a new and improved method of making and manufacturing double canvas and sail-cloth, with hemp and flax, or either of them, without any starch whatever," it appeared that the invention was in respect of the texture of the fabric, and not in the exclusion of starch; this patent also was held bad for false suggestion.[2] This title is ambiguous, but that defect would have been cured, had the specification declared nothing to be intended to be claimed, in respect of the exclusion of starch. Campion's.

The above mentioned, are cases of distinct and unequivocal false suggestion, but there are other cases, in which the false suggestion, though consisting rather in an ambiguity of terms, or in a misuse of words, nevertheless has been held sufficient to vitiate the patent.

In Cochrane's patent, the title was "an improved method of lighting cities, towns, and villages;" the invention, as described in the specification, was an improvement on the old street lamp, by a new combination and arrangement of parts. In an action for the infringement of the patent, the plaintiff was nonsuited, on the ground of insufficiency of title.[3] It is not easy to suggest what were the grounds of insufficiency in this case. Letters-patent for a method in the abstract, without any means described, would be void; for it is obvious, that the only method which could be described, must be some arrangement and combination of Cochrane's.

[1] Brunton *v.* Hawkes, 4 B. & Ald. 541.

[2] Campion *v.* Benyon, 6 B. M. 71.

[3] Cochrane *v.* Smethust, 1 Stark, 205. The authority of this case is doubtful, since the decision in Cook *v.* Pearce, *ante*, p. 594. See also Nickels *v.* Haslam, 8 Scott N. R. 97, and *post*.

apparatus. But the real objection in this case would appear to have been, that the method described was not an improved method, lamps possessing the same advantages, and of a kind extremely similar, having been used before.

Metcalf's. In the case of Metcalf's patent, for "a tapering head or hair brush," the invention was of a brush, with the bristles left of an unequal length; the bristles, instead of being cut down to a level, were left of an unequal length, so that some bristles of each cluster, were longer than the others; and Lord Ellenborough, C. J., held that, as "tapering" meant gradually converging to a point, the word was improperly used, and, unless the term had a different meaning annexed to it by the usage of the trade, the objection must prevail. The patent was accordingly repealed.[1] But, on the authority of the recent cases, it may be doubted whether an objection of this nature would now prevail; the title was ambiguous, but rendered sufficiently certain by the specification.[2] In the proceedings on Minter's patent,[3] Lord Denman, C. J., said: "It is quite indifferent whether the word 'self-adjusting' is the correct description of the thing. It seems to describe it so that no man can doubt what it is, namely, that one part of the body is to counterbalance the effect of the other part on the two different parts of the chair. And, in the case of Derosne's patent, Lord Abinger, C. B., said: "The gentleman who composed it (the specification) is not an Englishman, and he uses the word 'baked,' evidently, for boiling, and the word 'discoloration' for discharging from color; but all that is conceded; one would not be disposed, from any obscure word in the specification, which might be interpreted in favor of the plaintiff, taking it altogether, to deprive him of his patent."[4] And, in the recent proceedings on Neilson's patent, the same learned judge said: "A mere inaccurate use of words, explained by the context, will not necessarily avoid the patent."[5] Thus,

The incorrect use of a word, if explained, no defect.

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[1] R. *v.* Metcalf, 2 Stark, 249; Pat. Cases, 141.

[2] The hardship of this case was referred to by the Lord Chief Baron, in the recent proceedings on Neilson's patent, Pat. Cases, 333.

[3] See Minter *v.* Mower, Pat. Cases, 141.

[4] Pat. Cases, 157.

[5] Pat. Cases, 369.

in the case of Bloxam *v.* Else,[1] the improper use of the word "vice" for a screw, the drawing showing what was meant, was held not to vitiate the specification.

The inaccurate use of words in the last-mentioned cases, occurred in the specification, and not in the title of the invention, that is, in the letters-patent, so that the objections, founded upon such inaccurate use, would be on the ground of insufficient description, rather than of false suggestion, between which cases a most material distinction exists, and, consequently, the cases last above cited do not strictly apply to the case of Metcalf's patent. But, inasmuch as the letters-patent and specification are to be taken as one instrument, the latter must be called in to explain the former, and it must depend on the peculiar circumstances of each case, whether the objection, if of a substantial character, is so by reason of the false suggestion or insufficient description. The same observations apply to those cases in which a part of the invention, as described in the specification, is useless; thus, in a recent case, the Court of Exchequer said: "And we do not mean to intimate any doubt as to the validity of a patent for an entire machine or subject, which is, taken altogether, useful, though a part or parts may be useless, always supposing that such patent contains no false suggestion."[2]

Invention larger than the title.

In the cases above referred to, the invention has been less extensive than, or so different from, the title, that there has been distinct false suggestion. But there is another class of cases remaining to be considered, namely, where the invention is more extensive than the title, but without any false suggestion. Suppose, for instance, letters-patent to be granted for an improvement in roads, and the invention disclosed in the specification is an improvement in roads and carriages; in such a case, the invention specified is more extensive and different from the invention for which the letters-patent were granted; but there has been no false suggestion. In a case of this nature, any objection to the validity of the patent would appear to be founded on the proviso in the letters-patent, as to the specification not being properly com-

[1] 1 C. & P., 367.

[2] In Morgan *v.* Seaward, Pat. Cases, 197.

plied with. In such a case, the party has invented that for which the letters-patent were granted, and something more; but he can have no protection, under the letters-patent, in respect of such additional invention. The question, in such cases, would be, how far it may vitiate, as tending to encumber and confuse the specification. It would appear that such matter may be rejected as a surplusage, and, in the proceedings on Watt's patent, Eyre, C. J., said: "If there be a specification to be found in that paper which goes to the subject of the invention, the rest may be rejected as surplusage."[1]

Several improvements as one improvement.

Another class of cases remains to be mentioned, where, the letters-patent being for an improvement, several distinct improvements are specified, which several improvements may either together constitute one improvement, or be taken separately, as so many distinct and independent improvements, or all depending on one general principle. The objections above suggested do not apply to such a patent; for there is no false suggestion, and the specification supports the title, the whole and each of the several improvements being accurately described in the letters-patent. Thus, in

Clegg's patent.

Clegg's case, the title was "for an improved gas apparatus;" the invention, as described in the specification,[2] consisted of a retort, a purifier, a gas meter, and a self-acting governor, which might be used altogether or separately. No objection was made to the above patent, on this ground, in the litigation which the patent underwent.[3]

Sturtz's.

It is important to remark, with reference to cases of this kind, that a change in any one of a series of processes, or in any part of a process, whereby an improved final result is attained, and whereby a new, cheaper, or better article to the public is produced, is an improvement in the final result. Thus the Lord Chancellor Lyndhurst said: "The title in this case, is for certain improvements in copper and other plate printing. Copperplate printing consists of processes involving a great variety of circumstances. The

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[1] 2 H. Bl. 498.

[2] See Pat. Cases, 103.

[3] In Crossley *v.* Beverley, Pat. Cases, 106.

paper must be of a particular description; before it is used it must be damped; it must remain damp a certain time, and must be placed in a certain temperature; the plate must be duly prepared and duly applied; and various processes must be gone through, before the impression is drawn off, and brought to a finished state. An improvement in any one of these circumstances, in the preparation of the paper, for instance, or in the damping of it, &c., may be truly called an improvement in copperplate printing." [1]

An improvement in any one of a series of processes an improvement in the result.

On the same principle, the title "improvements in extracting sugar and syrup from cane juice, and other substances containing sugar, and in refining sugar and syrup," was held good, notwithstanding but one distinct improvement was pointed out, on the ground that every part of the process may be treated as an improvement. On that occasion, Lord Abinger, C. B., said: "I think also the word 'improvements,' was relied on as being in the plural number; but that is of no consequence, because he may mean that every part of his process is to be treated as an improvement. It is a phrase that may be reconciled to the fact, because syrup, in the proper meaning of the word, is not extracted from the cane juice, any more than sugar is; but, in the process of what is called extracting sugar from the cane juice, it is made into syrup, and, therefore, if it is an improvement in extracting sugar, *a fortiori* it may be said to be an improvement in extracting syrup." [2]

Derosne's.

On the same principle, if a result has hitherto been attained by four processes, the obtaining the same result by the omission of one process is an improvement in that result. It is much better, in such cases, for an inventor to adopt a general title of this description, than a title pointing to the nature of the invention, and the manner in which it is to be performed. But care must be taken that such general title is fully supported by the invention, otherwise the letters-patent will be void, unless amended by disclaimer. [3]

Omission of one of several processes.

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[1] In Sturtz *v.* De la Rue, 5 Russ. 322; Pat. Cases, 83.

[2] In Derosne *v.* Fairie, Pat. Cases, 162.

[3] It is to be feared that many inventors have been induced, in reliance on the provisions of Lord Brougham's act, to be less careful about the title and specification, than they would have been under the old

The inventor must also take care that the title gives some, and, so far as it goes, a true, idea of the invention, or the letters-patent will be in danger, on the ground of discrepancy between the title and the qualification.

Practical objections to a general title.

The principle laid down by Lord Lyndhurst, and already referred to,[1] that the title must give some idea of the invention, is founded on public policy and justice. Great frauds have been practised on the crown, on the public, and on individuals, by means of the vague and general, or blind titles, which have been permitted to be adopted in letters-patent. The consequence is, that letters-patent are granted, without notice to parties most interested in opposing such grants, and who have done all in their power to obtain such notice.[2] But, besides this, a general title affords opportunities and facilities for an improper use of the interval allowed for making and enrolling the specification, as by inserting in the specification matters of subsequent discovery, or methods of carrying out the invention which may have been acquired from other sources, and which were not contemplated at the time when the petition for the letters-patent was presented.[3]

In a recent case, the title was, "improvements in the manufacture of gas for the purposes of illumination, and in

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state of the law. This is most unwise, since the inconveniences connected with the entry of a disclaimer, in the case of subsequent legal proceedings, are so great, that the course ought not to be resorted to, except in cases of absolute necessity.

[1] *Ante.*

[2] As by entering a caveat with the Attorney and Solicitor-General. See Law and Pr., 69, *r.*

[3] The evils here alluded to are of considerable magnitude, and various means have been suggested for their remedy. A practice has been adopted, of late years, by the law officers of the crown, of requiring (in the words of Lord Campbell) that there should be *de bene esse* a specification deposited at the time the report of the Attorney or Solicitor-General is made. See Pat. Cases, 333. This practice is, however, of but partial application, and the question naturally arises, in what way would such preliminary specification be made available in any subsequent proceedings. Must the party prejudiced bring a *scire facias*, and call the law officer of the crown as a witness? See some observations on this point, 5 Jurist, 1097.

apparatus used when transmitting and measuring gas or other fluids:" the specification recited the letters-patent as granted for "improvements in the manufacture of gas for the purposes of illumination, and in apparatus used therein, and when transmitting and measuring gas or other fluids," and described several improvements, and, amongst others, a mode of manufacturing clay retorts by hydraulic pressure. In an action for an infringement of this patent, two objections were taken on the part of the defendant: 1. That no specification of the patent which had been granted had been enrolled. 2. That the invention described in the specification was different from that for which the patent was granted: and the learned judge decided that the defendant was entitled to a verdict, on one of the pleas founded on those objections.[1] In this case, there was a discrepancy between the letters-patent and the specification, and it is doubtful whether the rule, as laid down by Lord Lyndhurst, that the title must give some idea, and, so far as it goes, a true idea, of the invention, was complied with. In another case,[2] the title was, "improvements in the manufacture of plaited fabrics," and the specification stated the object of the invention to be "to manufacture plaited fabrics, by the act of weaving in the loom;" and, having described the means employed, concluded with the following claim:—"But what I claim is, the mode of weaving plaited fabrics by dividing the warp into different sets or parts, to be delivered at different speeds, as the weaving with the weft proceeds." It was objected, on the part of the defendant, that the patent could not be supported, inasmuch as one improvement only was described and claimed, and not several, as suggested by the title; but the Court of Common Pleas overruled the objection. It should be observed, that many objections of this kind are formal rather than substantial, and that, in the case last referred to, although the specification put a particular limitation on the title, it might well be that several improvements were involved in, or resulted from, the invention or mode of manufacture pointed out.

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[1] Croll *v.* Edge, in the C. P., *cor.* Sir T. Wilde, C. J., July, 1847.

[2] Nickels *v.* Haslam, 8 Scott, N. R. 57.

Objections to the title and to the specification rest on different principles.

Objections to the title of the invention, or to the validity of the letters-patent, by reason of some defect in the title and objections to the specification, rest on different and distinct principles; the former being founded on the old common-law doctrine of false suggestion and misrepresentation to the crown, the latter on the non-compliance with the express terms of a proviso or condition contained in the grant itself. The letters-patent are to be read and construed in connection with the specification, which may be brought in aid to explain and reduce to certainty the title, and the one must not be separated from the other, in considering the validity of the letters-patent, so far as that validity may depend on the sufficiency of the title and specification. Objections so founded will not unfrequently appear to be of a mixed character, and such as might have been obviated by a modification either of the title or of the specification, but the real defect will generally be found to exist in the specification, and to result from want of care in the preparation of that instrument.

On the Specification.

Proviso as to the specification.

The letters-patent, having been granted for the invention described and designated by the title, are subject to a proviso or condition, that they are to be absolutely void if the patentee shall not particularly describe and ascertain the nature of the said invention, and in what manner the same is to be performed, by an instrument in writing, under his hand and seal, and cause the same to be enrolled in the High Court of Chancery, within a certain time after the date of the letters-patent.[1] This, which is one of the conditions of the grant, must be strictly and fully complied with, otherwise, the letters-patent are absolutely void, and all the exclusive liberties and privileges granted by them are at an end. The instrument, to which this proviso gives rise, is called the specification, upon the particular form of which, the place of its enrolment, or the time within which the enrol-

[1] See the form of proviso, Law & Practice, Pr. F. xiii.

ment must take place, it will be unnecessary here to make any observations.[1] The strict compliance with the proviso involves several conditions expressed in the conjunctive, but that part which requires that the patentee "shall particularly describe and ascertain the nature of the said invention, and in what manner the same is to be performed," gives rise to the most frequent questions, and requires especial consideration. The requirements of this portion of the proviso may be conveniently considered under the following heads: —

1. The patentee must particularly describe and ascertain the nature of the invention. 2. He must particularly describe and ascertain in what manner the invention is to be performed. 3. The invention so described and ascertained must be the invention for which the letters-patent were granted. Under one of these three heads, the various questions generally arising upon the sufficiency of the specification may be considered.

Before, however, entering upon the requisites of the specification, as expressed by the terms of the proviso and explained by the various decisions on the subject, it will be advisable to advert to the history and origin of the proviso in question, and the general policy upon which its introduction rests. Previous to the latter end of the reign of Queen Anne,[2] the letters-patent were granted in the form which had been adopted from a very early period, and without any proviso of the kind now under consideration. The brief description contained in the letters-patent, that is, the title of the invention, was the only information which the public received. The inventor was under no obligation to announce the nature or extent of his invention, or to explain to the public in what manner it was to be performed, and, as a necessary consequence of this, in the low state of the arts and manufactures of the country at that period, the grantee of letters-patent acquired exclusive privileges of a much more extensive character than can at present be ob-

Origin of the specification.

[1] See Law & Practice, Pr. F. xiv., for information on these points.

[2] The earliest letters-patent which I have met with, requiring the enrolment of a specification, are dated 1 April, 1612. No account of the peculiar circumstances which led to the introduction of the clause is extant. See Pat. Cases, 8 n. & 36 n. *e*.

tained.[1] So far indeed from its being incumbent on the inventor to give any information as to the nature of the invention, or as to the manner in which it was to be performed, it seems to have been taken for granted that the invention was to have been practised in secret; for an act of the Commonwealth, A. D. 1651, c. 2, after granting to one Jeremy Buck to use, exercise, and enjoy the art, skill, and mystery of melting down iron ore and cinders into raw iron, and of other ore and metal, with stone-coal, pit-coal, or sea-coal, without charking thereof, contains the two following remarkable provisos: — "Provided always, that all and every person or persons may use such ways and works for melting down any iron ore, cinder, or other metals, as they now use, or heretofore have lawfully used to do, or any other way or works hereafter by them newly to be invented, so as they make not use of the said new invention of him the said J. Buck: Provided also, that the said J. Buck and his assigns, after seven years of the term hereby granted, do and shall take apprentices, and teach them the knowledge and mystery of the said new invention."[2] These two provisos are remarkable as first steps towards obtaining that which is now ensured by the specification. The former of these provisos points out the kind of grievance to which parties might be subjected, by reason of the want of an express declaration by the patentee, as to the precise extent and nature of his invention; the latter shows that, at common law, there was no compulsion on the party obtaining the exclusive privileges, to instruct the public as to the means of performing, or to furnish any information respecting, his invention. The instruction of the public in

Invention originally kept secret.

Instruction of the public.

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[1] The forms of the early letters-patent, and the nature of the rights granted by and enjoyed under them, deserve more attention than they have usually received. See the patents of Baker, Dudley, and Mansell, Pat. Cases, 9–27. Baker, 3 Jac. 1, had the exclusive right of making smalt in England, *ante;* Dudley, 19 Jac. 1, of making iron with sea-coal, *ante;* Mansell, 98 Jac. 1, of making glass with wood, *ante;* and Buck, A. D. 1651, had exclusive privilege, under an act of the Commonwealth, for melting iron and other metals with stone coal without charking. Pat. Cases, 35.

[2] Pat. Cases, 35.

the new art or mystery is recognized in the early case of Darcy *v.* Allin,[1] where it was said, "the king may grant a monopoly patent for some reasonable time, until the subject may learn the same, in consideration of the good he doth to the commonwealth, otherwise not;" and Sir E. Coke alludes to the same subject,[2] of teaching by apprentices; but the means of ensuring the object were wanting; for it is obvious that, unless the party be compelled to teach others, either by taking apprentices or by enrolling such a specification as will convey to others all the information requisite for practising the invention, the inventor will have every inducement to keep the secret to himself, and the public will not be benefited, to the extent or in the manner contemplated by the policy upon which the granting of exclusive privileges of this nature is founded.

A proviso similar to the one in the act of the Commonwealth for Buck's invention, insuring to persons the free enjoyment and use of any methods previously used by them, or which they should thereafter invent, so as they used not the invention, the subject of the grant, is contained in many of the earlier patents, as well as in those of recent date; but, until the introduction of the proviso for the specification, the public were left in uncertainty as to what the patentee claimed, or from what they were debarred, and the defining these important particulars was left to parole evidence. The inconveniences of this state of things would not be seriously felt in the infancy of the arts and manufactures of the country; but, as invention progressed, and grants of letters-patent became more numerous, other means of instruction and protection were requisite.

Proviso introduced on the authority of the crown.

No account has been preserved of the first introduction into the letters-patent of the proviso for the specification: it was not in consequence of any statutory enactment, but was, in all probability, introduced at the suggestion of the law officer of the crown, by virtue of the authority and direction which he receives, under the terms of the royal

[1] An. 44 El. Pat. Cases, 6.
[2] 3 Inst. 151. Pat. Cases, 31.

warrant, to insert in the letters-patent all such clauses and provisos as he may judge requisite.[1]

Letters-patent a bargain between the patentee and the public.

The granting of letters-patent has been likened to a bargain between the patentee and the public; it has been said that the patentee enjoys his limited monopoly as a reward, and in consideration of the information and benefit which the public are to derive from a full disclosure of the invention to them, and the specification has been consequently designated as the price which the patentee pays the public for his exclusive privileges. The notion of a bargain or contract between the patentee and the public having been thus introduced, the good faith of the patentee, in the disclosures made respecting his invention, becomes a principle at once applicable to the question — how far the proviso has been fully and honestly complied with? "The law," says Lord Mansfield, "relative to patents, requires, as the price the individual should pay the people for his monopoly, that he should enrol, to the very best of his knowledge and judgment, the fullest and most sufficient description of all the particulars on which the effect depended that he was able to do."[2] "The specification," says Lord Eldon, "may be considered to be the consideration for the bargain between the public and the patentee, and must be judged on the principle of good faith." Lord Lyndhurst says, "It is a principle of patent law, that there must be the utmost good faith in the specification."[3]

Benefit to the public.

The public are benefited by the required disclosure in two ways; first, the general progress of the arts and manufactures is promoted by the addition of fresh discoveries in which all may freely participate after a limited time; secondly, the knowledge is preserved and communicated to the public, and protection is given to the ingenious inventor, while the mischiefs attendant on manufactures conducted in private, under injunctions of secrecy, are in great measure avoided. The penalty attached to a non-compliance with the requirements of the law as regards the speci-

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[1] See the form of the warrant, Law & Practice, Pr F. viii.

[2] See per Lord Mansfield, C. J. Pat. Cases, 54, n. *a*.

[3] Pat. Cases, 83.

fication has not been sufficient, in all cases, to ensure a full and fair disclosure of the secret, and the exclusive privileges granted by the letters-patent have, consequently, been lost.[1]

Keeping in view, then, this consideration, upon which it may be presumed that the crown was advised to introduce the proviso in question, and the principles by which the sufficiency of the specification has been tested, we will proceed to the examination of the points to which the attention of patentees must be especially directed.

Limits of the invention must appear.

In the first place, then, the patentee must particularly describe and ascertain the nature of the invention. That is, he must make it distinctly appear, either by express statement or by obvious intendment, in what the invention consists; what is its peculiar character; and in what respect it differs from previous inventions; or, in other words, where the invention begins and where it ends. If these limits, so to speak, of the invention, be not thus defined, the public will not be apprised of what they are excluded from, during the subsistence of the letters-patent, and persons pursuing in the same line of invention, or engaged in a similar branch of manufacture, may be improperly excluded from practising what is perfectly open to them, or may unintentionally commit an infringement of the patent. This requisite is sometimes expressed by stating that the specification must distinguish between what is old and what is new, and the omission to do this has not unfrequently been the sole cause of a patentee failing, in an action at law, to maintain the exclusive privileges granted by the letters-patent.[2]

New and old must be distinguished.

An objection, founded on a non-compliance with the rule just referred to, was taken in a recent case, and its nature was explained in the following terms by Lord *Abinger*, C.

[1] The temptation which exists, in the case of chemical and other patents, to keep back part of the secret, has, it is to be feared, been somewhat encouraged by a mistaken notion that such omission may be supplied, by way of memorandum of alteration, under Lord Brougham's Act.

[2] As in Macfarland v. Price. Pat. Cases, 74; 1 Stark., 199.

B.: "The objection to this specification is plain on the face of it, and it is this — it is required, as a condition of every patent, that the patentee shall set forth, in his specification, a true account and description of his patent or invention, and it is necessary, in that specification, that he should state what his invention is, what he claims to be new, and what he admits to be old; for, if the specification states simply the whole machine which he uses, and which he wishes to introduce into use, and claims the whole of that as new, and does not state that he claims either any particular part or the combination of the whole as new, why then his patent must be taken to be a patent for the whole, and for each particular part, and his patent will be void if any particular part turns out to be old, or the combination itself not new." [1]

The difficulty of avoiding the objections just adverted to, is greater than at first sight appears, especially in an advanced state of the arts and manufactures, when the changes which mark and constitute the progress of invention are necessarily small, and from the necessity which frequently exists, in order to comply with another requisite of the proviso in question, of describing, either partially or fully, many things or processes, in respect whereof no claim to invention is intended to be made. In order to avoid this objection, it is not unusual to introduce, at the close or other part of the specification, certain formal disclaiming and claiming clauses, but such clauses are in many cases wholly unnecessary, and not unfrequently give rise to formal objections as to their validity, and to wrong impressions as to the real spirit of the invention, in proceedings in which the patent is impeached, or when the infringement complained of does not accord, in every particular, with the precise terms of the claim.[2] It should be borne in mind that

Origin of formal claiming and disclaiming clauses.

[1] In Carpenter *v.* Smith. Pat. Cases, 532.

[2] In the recent case of The Queen *v.* Cutler, an objection was taken that the invention, as expressed in two of the claims, was not the subject-matter of letters-patent, and Lord Denman, C. J., acceded, at the trial, to that view of the case. Had the claims been omitted, or differently worded, so as to embrace the real spirit of the invention, the objection would, in all probability, never have arisen.

formal disclaiming and claiming clauses, are, in point of law, wholly unnecessary, and that though, in some cases, as where the step or point of invention is small, and capable of being well defined, such clauses may be advisable and expedient, yet many cases exist in which they are inexpedient and injurious. It is impossible to lay down any general rule; each case must be regulated by its own special circumstances; but, so long as what is intended to be claimed and represented as the invention, can be gathered and ascertained from the whole instrument, the courts will overrule mere technical objections, and support the validity of the grant of the crown.[1]

Failure of patentee mainly due to formal defects.

The preparation of the specification, so as to limit and ascertain the nature of the invention, in accordance with the principles above expressed, whether effected by formal claiming and disclaiming clauses, or by the introductory statement, or by general description, though matter of form, is all important to a patentee, for, unless this be properly done, he will fail to secure protection for his invention, however valuable it may be. The importance of this cannot be too strongly insisted on, because, on a review of the cases in which patentees have failed to maintain the exclusive privileges granted by the letters-patent, it has rarely happened that some invention, sufficient to support a valid patent, has not existed; the cause of failure has generally been some formal defect in the specification.

Vagueness and uncertainty in specifications.

The objections of vagueness, ambiguity, and uncertainty, are intimately connected with the preceding, but, in whatever form presented, their force is derived from the non-compliance with the express terms of that part of the proviso which requires that the patentee shall particularly describe and ascertain the nature of his invention.

Manner of practising the invention to be fully given.

The second part of the condition, as above expressed, requires that the patentee shall particularly describe and ascertain in what manner the invention is to be performed.

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[1] See the recent case of M'Alpine *v.* Mangnall (3 C. B. 517) in the Exchequer Chamber. The inventor is referred to the specifications of the patents of Forsyth (Pat. Cases, 96); of Hall (*Ibid*, 98); of Clegg (*Ibid*. 103); of Hill (*Ibid*, 225); of Neilson (*Ibid*, 373,); and of Crane (*Ibid*, 375); in illustration of the preceding observations.

The compliance or non-compliance with this requisite, is a question of fact for the jury, on the sufficiency of the specification, to enable a competent workman, by following the directions given, to practise the invention. The compliance or non-compliance with the requisite first adverted to, is apparent on the face of the specification, and must, in general, be disposed of entirely by the Court; whereas any objection, in respect of the requisite now under consideration, generally arises as matter of evidence. Under this requisite, the question of *bonâ fide*, or of good faith, in making a full, fair, and complete disclosure, in respect of the invention, generally arises. The objections arising under this head may be conveniently classified, as in contravention of one of the three following rules: — 1. The specification must be sufficiently full, clear, and exact to enable a person, conversant with the particular department of the arts and manufactures, to practise the invention, by pursuing the directions contained in the specification, without calling upon his own inventive powers, or requiring him to possess and apply more than ordinary skill and knowledge. 2. The specification must direct how to practise the invention in the most beneficial manner known to the patentee, and it must contain the most ample disclosure of the secret which it is in his power to make. 3. The specification must be true, and not mislead.

Rules as to the specification.

Various cases might be cited, in illustration of each of these rules, but the following will be sufficient on the present occasion.[1] In the celebrated case of the paddle-wheels,[2] in which a question arose on the sufficiency of the specification to enable a competent workman to make the wheels, the jury were directed, by Alderson, B., in the following terms: — "Further, if a patentee is acquainted with any particular mode by which his invention may be most conveniently carried into effect, he ought to state it in his specification; that was laid down in a case before Lord Mansfield. There the question arose on a patent for steel

Every thing contributing to the beneficial working of the invention must be disclosed.

[1] See Index to Patent Cases, tit. Specification. Law & Practice, 86.

[2] Morgan v. Seaward, Pat. Cases, 175.

trusses; it appeared that the patentee, in some parts of his process, used tallow, to facilitate the invention for which he had obtained a patent, and, in his specification, he made no mention of the use of the tallow. The Court held the specification to be bad, because, they said, you ought not to put people to find out that tallow is useful in carrying into effect the invention of steel trusses. You ought to tell the public so, if that is the best mode of doing it, for you are bound to make a *bonâ fide* full and candid disclosure."

In the case of the patent verdigris,[1] Gibbs, C. J., said: — "It is said that the method described makes verdigris, and that the specification is therefore sufficient. The law is not so; a man who applies for a patent, and possesses a mode of carrying on that invention in the most beneficial manner, must disclose the means of producing it in equal perfection, and with as little expense and labor as it costs the inventor himself. The price that he pays for his patent is, that he will enable the public, at the expiration of his privilege, to make it in the same way, and with the same advantages. If any thing that gives an advantageous operation to the thing invented, be concealed, the specification is void. Now, though the specification would enable a person to make verdigris substantially as good without *aqua fortis* as with it, still, inasmuch as it would be made with more labor by the omission of *aqua fortis*, it is a prejudicial concealment, and a breach of the terms which the patentee makes with the public."

Also, by Abbott, C. J., in the case of the Seidlitz powders:[2] — "It is the duty of a patentee to specify the plainest and most easy way of producing that for which the patent is granted, and to make the public acquainted with the mode which he himself adopts. By reading this specification, we are led to suppose a laborious process necessary to the production of the ingredients, when, in fact, we might go to any chemist's shop, and buy the same things ready made. The public are misled by this specification, which tends to make people believe that an elaborate

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[1] Wood *v.* Zimmer, Pat. Cases, 83; 1 Holt, N. P. 60.

[2] Savory *v.* Price; Pat. Cases, 83.

process is essential to the invention. It cannot be supported."

And, lastly, by Lord Lyndhurst, L. C. : — "It is a principle of Patent Law, that there must be the utmost good faith in the specification. It must describe the invention in such a way, that a person of ordinary skill in the trade shall be able to carry on the process. Here the specification says, that there is to be added to the size certain proportions of 'the finest and purest white lead;' a workman would naturally go to a chemist's shop, and ask for 'the finest and purest chemical white lead;' the answer which he would receive would be, that there was no substance known in the trade by that name. He would be compelled to ask for the purest and finest white lead; and, according to the evidence, the purest and finest white lead that can be procured in London will not answer the purpose. It is said that there is a substance prepared on the Continent, which is white lead, or some preparation of white lead; and that, by using it in the manner described in the specification, the desired effect is produced. If that be so, the patentee ought to have directed the attention of the public to that circumstance. He ought to have said, 'the purest white lead which can be obtained in the shops of London will not do; but there is a purer white lead, prepared on the Continent, and imported into this country, which alone must be used.' 'The purest and finest chemical white lead,' must mean the finest and purest white lead usually gotten in the general market for that commodity, unless the public be put on their guard by a statement, that what would be called very fine and pure white lead, in the ordinary sense of the trade, will not answer, but that the white lead used must be of a superlatively pure and fine quality, prepared in a particular way, and to be gotten only in a particular place. If the article is not made in this country, but may be imported, it would be necessary to mention that circumstance. It is said that the description in the specification will be sufficient, if the substance is known in the trade by the name of 'the purest and finest white lead,' or, 'the purest and finest chemical white lead.' But it does not appear that there is any substance generally known in the trade by that denomination. It is alleged that the substance can be pur-

chased at the shops in London, and two are specified. In point of fact, it has been purchased only at one of those shops, and they are not chemists', but color shops. It appears to me that this specification does not give that degree of full and precise information which the public have a right to require."

Amount of detail in description how regulated.

The preceding cases will sufficiently point out the kind of information required in a specification; the extent of such information, or amount of detail, will be regulated by the consideration, that the specification is addressed to artists and persons acquainted with the manufacture to which the invention relates. Upon this point, the following direction was given by Parke, B.:[1] — "You are not to ask yourselves whether persons of great skill would do it; the specification is supposed to be addressed to a practical workman, who brings the ordinary degree of knowledge and the ordinary degree of capacity to the subject; and, if such a person would construct an apparatus that would answer some beneficial purpose, whatever its shape was, according to the terms of this specification, then I think that this specification is good, and that the patent may be supported, so far as relates to that."

In the case of the paddle-wheel, already referred to, Alderson, B., says:[2] — "If you think that engineers of ordinary and competent skill would have to set themselves a problem to solve, and would have to solve that problem before they could do it, then the specification would be bad." And again: — "Now a workman of ordinary skill, when told to put two things together so that they should move, would, of course, by the ordinary skill and knowledge he possesses, make them of sufficient size to move. There he would have to bring to his assistance his knowledge, that the size of the parts is material to the working of the machine. That is within the ordinary knowledge of every workman. He says, 'I see this will not work, because it is too small;' and then he makes it a little larger,

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[1] See Neilson *v.* Harford, Pat. Cases, 314, where this question is fully considered by that learned judge.

[2] Pat. Cases, 174.

and finds it will work. What is required is, that the specification should be such as to enable a workman of ordinary skill to make the machine."[1]

The specification addressed to artists.

To the same effect, in Watt's case, is the following observation of Eyre, C. J.: — "Suppose a newly-invented chemical process, and the specification should direct that some particular substance should be poured upon gold in a state of fusion, it would be necessary, in order to this operation, that the gold should be put into a crucible, and should be melted in that crucible; but it would be hardly necessary to state, in the specification, the manner in which, or the utensils with which, the operation of putting gold into a state of fusion was to be performed. They are mere incidents, with which every man acquainted with the subject is familiar.[2]

Inaccurate use of words, or terms of art, will not vitiate a specification.

Lastly, the use of terms of art, or of words in an inaccurate or incorrect sense, provided that persons of ordinary skill and knowledge would not be misled, is no valid objection to a specification. Thus, Lord Abinger, C. B., says;[3] "The gentleman who composed the specification is not an Englishman, and he uses the word 'baked' evidently for boiling, and the word 'discoloration' for discharge from color; but one would not be disposed, from an obscure word in the specification, and which might be interpreted in favor of the plaintiff, taking it altogether, to deprive him of his patent.[4]

Known processes need not be described.

In concluding this part of the case, it may be laid down as a general rule, that known machinery and processes need not be described, and that technical terms of art will receive their ordinary construction, but care must be taken to make it appear that nothing is claimed in respect of such known elements.

The remaining point, to which the attention of the pa-

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[1] See this question fully considered by that learned judge, in his direction to the jury in Morgan *v.* Seaward, Pat. Cases, 172 – 185.

[2] 2 H. Bl. 497.

[3] See Derosne *v.* Fairie, Pat. Cases, 157.

[4] See, on this point, observations of Lord Tenterden, C. J., in Bloxam *v.* Elsee, (1 C. & P. 558; 6 B. & C. 169); and in Crossley *v.* Beverley, Pat. Cas. 110.

tentee must be directed, is, that the invention so described and ascertained is the invention for which the letters-patent were granted. This is sometimes expressed by saying that the letters-patent and specification must support each other, for, if there be any inconsistency or material discrepancy between the invention, as described in the letters-patent, and in the specification, the terms of the condition will not have been complied with. In the case of The King *v.* Wheeler,[1] the title was, "a new or improved method of drying and preparing malt," and the invention, as described in the specification, consisted in heating malt to a high degree, so that it should be changed to a deep brown color. Lord Tenterden, C. J., in delivering the judgment of the Court, said — "We think the invention mentioned in this specification so entirely different from that mentioned in the patent, as that the latter, if such there be, remains wholly unsupported, and, consequently, that the issue respecting the sufficiency of the specification could not be found for the defendant." The title, in the case just referred to, was defective, and did not properly express the invention which had, in fact, been made, but the decision illustrates the rule of law now under consideration. Other cases, in which a similar question has arisen, have already been referred to,[2] and it should be observed, that this objection is, in most of the cases, entirely of a formal nature, and such as would never have arisen, had the specification been compared with the letters-patent, and care taken that the invention, as fully described and ascertained in the specification, should agree, substantially, with the short description in the letters-patent.

The invention in the specification must be the same as in the patent.

It is extremely doubtful whether the provisions of Lord Brougham's Act, giving the power of entering a disclaimer and memorandum of alteration, apply to cases of non-compliance with the express terms of the proviso as to the specification. If this be so, a patentee who fails to comply with that proviso, in any one of the three respects above reverted to, is without remedy, and his grant of letters-patent is altogether and absolutely void.

Amendment by disclaimer and memorandum of alteration.

[1] 2 B. & Ald. 345. See the case of Croll *v.* Edge, *ante*, p. 602.

[2] See *ante*, p. 602.

As the law stood, previous to the passing of that Act, if any one of several inventions or improvements, for which the letters-patent were granted, should prove to be old, or not an improvement, the grant was invalid, and the power of entering a disclaimer or memorandum of alteration was given, for the purpose of enabling a patentee to get rid of one of several inventions or improvements, and to make such alterations in the title and specification as the disclaiming or abandoning a part of the invention might render necessary. The power of entering a disclaimer or memorandum of alteration may be employed to render the letters-patent and specification consistent with each other, subject, however, always, to the proviso, that the exclusive right originally granted by the letters-patent is not extended; and the words of the statute are, on one construction, sufficient to authorize alterations in the patent and specification, other than such as are of the nature of a disclaimer, as, for instance, the curing some defect in the original specification, as insufficient description, or non-compliance with some of the conditions already adverted to; but, until such an alteration shall have been sanctioned on the highest authority, it ought not to be ventured on, except in cases of absolute necessity; and, indeed, the entry of any disclaimer and memorandum may be so prejudicial to a patent, that it ought never to be resorted to except upon very clear grounds, and after mature consideration.

LAWS OF THE UNITED STATES

RELATING TO

PATENTS AND THE PATENT OFFICE.

CONSTITUTION OF THE UNITED STATES.

ARTICLE 1st, SECTION 8th.

"The Congress shall have power, &c., to promote the "progress of science and useful arts, by securing, for limited "times, to Authors and Inventors, the exclusive right to their "respective writings and discoveries." Also, "to make all "laws which shall be necessary and proper for carrying "into execution the foregoing powers."

CHAP. VII. — AN ACT to promote the progress of useful arts.

Patents for useful discoveries, how applied for, and granted. Repealed by the Act of 21st Feb. 1793, ch. 11. The Secretary of State, the Secretary of War, and the Attorney Gen'l, or any two of them, if they shall deem the invention, &c., useful and important, to cause letters-patent to be issued.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That, upon the petition of any person or persons to the Secretary of State, the Secretary for the Department of War, and the Attorney-General of the United States, setting forth, that he, she, or they, hath or have invented or discovered any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used, and praying that a patent may be granted therefor, it shall and may be lawful to and for the said Secretary of State, the Secretary for the Department of War, and the Attorney-General, or any two of them, if they shall deem the invention or discovery sufficiently useful and important, to cause letters-patent to be made out in the name of the United States, to bear teste by the President of the United States, reciting the allegations and suggestions of the said petition, and describing the said invention or dis-

covery, clearly, truly, and fully, and thereupon granting to such petitioner or petitioners, his, her, or their heirs, administrators, or assigns, for any term not exceeding fourteen years, the sole and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention or discovery; which letters-patent shall be delivered to the Attorney-General of the United States, to be examined, who shall, within fifteen days next after the delivery to him, if he shall find the same conformable to this Act, certify it to be so at the foot thereof, and present the letters-patent, so certified, to the President, who shall cause the seal of the United States to be thereto affixed, and the same shall be good and available to the grantee or grantees, by force of this Act, to all and every intent and purpose herein contained, and shall be recorded in a book to be kept for that purpose in the office of the Secretary of State, and delivered to the patentee or his agent, and the delivery thereof shall be entered on the record and indorsed on the patent, by the said Secretary, at the time of granting the same.

Continuance of a patent.

Attorney-General to certify the conformity of the patent with this Act.

Patents to be recorded.

Specification in writing, with a draft or model thereof, to be delivered and filed in the office of the Secretary of State.

SEC. 2. *And be it further enacted*, That the grantee or grantees of each patent shall, at the time of granting the same, deliver to the Secretary of State a specification in writing, containing a description, accompanied with drafts or models, and explanations and models (if the nature of the invention or discovery will admit of a model) of the thing or things, by him or them invented or discovered, and described as aforesaid, in the said patents; which specification shall be so particular, and said models so exact, as not only to distinguish the invention or discovery from other things before known and used, but also to enable a workman or other person skilled in the art or manufacture, whereof it is a branch, or wherewith it may be nearest connected, to make, construct, or use the same, to the end that the public may have the full benefit thereof, after the expiration of the patent term; which specification shall be filed in the office of the said Secretary, and certified copies thereof shall be competent evidence in all courts, and before all jurisdictions, where any matter or thing, touching or concerning such patent, right, or privilege, shall come in question.

Certified copies, in what cases to be evidence.

Copies of specification and models may be taken.

SEC. 3. *And be it further enacted*, That, upon the application of any person to the Secretary of State, for a copy of any such specification, and for permission to have similar model or models made, it shall be the duty of the Secretary to give such copy, and to permit the person so applying for a similar model or models, to take, or make, or cause the same to be taken or made, at the expense of such applicant.

Penalty for making, &c., any art, &c., for which a patent has been granted.

SEC. 4. *And be it further enacted*, That, if any person or persons shall devise, make, construct, use, employ, or vend, within these United States, any art, manufacture, engine, machine, or device, or any invention or improvement upon, or in any art, manufacture, engine, machine, or device, the sole and exclusive right of which shall be so as aforesaid granted by patent to any person or persons, by virtue and in pursuance of this Act, without the consent of the patentee or patentees, their executors, administrators, or assigns, first had and obtained in writing, every person so offending, shall forfeit and pay to the said patentee or patentees, his, her, or their executors, administrators, or assigns, such damages as shall be assessed by a jury, and, moreover, shall forfeit to the person aggrieved the thing or things so devised, made, constructed, used, employed, or vended, contrary to the true intent of this act, which may be recovered in an action on the case, founded on this act.

Damages to be assessed by a jury.

Patents surreptitiously obtained.

SEC. 5. *And be it further enacted*, That, upon oath or affirmation made before the judge of the District Court where the defendant resides, that any patent which shall be issued in pursuance of this act, was obtained surreptitiously by, or upon false suggestion, and motion made to the said court, within one year after issuing the said patent, but not afterwards, it shall and may be lawful to and for the judge of the said District Court, if the matter alleged shall appear to him to be sufficient, to grant a rule that the patentee or patentees, his, her, or their executors, administrators, or assigns, show cause why process should not issue against him, her, or them, to repeal such patents; and if sufficient cause shall not be shown to the contrary, the rule shall be made absolute, and thereupon the said judge shall order

How to be repealed.

Continuance of a patent.

covery, clearly, truly, and fully, and thereupon granting to such petitioner or petitioners, his, her, or their heirs, administrators, or assigns, for any term not exceeding fourteen years, the sole and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention or discovery; which letters-patent shall be delivered to the Attorney-General of the United States, to be examined, who shall, within fifteen days next after the delivery to him, if he shall find the same conformable to this Act, certify it to be so at the foot thereof, and present the letters-patent, so certified, to the President, who shall cause the seal of the United States to be thereto affixed, and the same shall be good and available to the grantee or grantees, by force of this Act, to all and every intent and purpose herein contained, and shall be recorded in a book to be kept for that purpose in the office of the Secretary of State, and delivered to the patentee or his agent, and the delivery thereof shall be entered on the record and indorsed on the patent, by the said Secretary, at the time of granting the same.

Attorney-General to certify the conformity of the patent with this Act.

Patents to be recorded.

Specification in writing, with a draft or model thereof, to be delivered and filed in the office of the Secretary of State.

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Certified copies, in what cases to be evidence.

Copies of specification and models may be taken.

SEC. 3. *And be it further enacted*, That, upon the application of any person to the Secretary of State, for a copy of any such specification, and for permission to have similar model or models made, it shall be the duty of the Secretary to give such copy, and to permit the person so applying for a similar model or models, to take, or make, or cause the same to be taken or made, at the expense of such applicant.

Penalty for making, &c., any art, &c., for which a patent has been granted.

SEC. 4. *And be it further enacted*, That, if any person or persons shall devise, make, construct, use, employ, or vend, within these United States, any art, manufacture, engine, machine, or device, or any invention or improvement upon, or in any art, manufacture, engine, machine, or device, the sole and exclusive right of which shall be so as aforesaid granted by patent to any person or persons, by virtue and in pursuance of this Act, without the consent of the patentee or patentees, their executors, administrators, or assigns, first had and obtained in writing, every person so offending, shall forfeit and pay to the said patentee or patentees, his, her, or their executors, administrators, or assigns, such damages as shall be assessed by a jury, and, moreover, shall forfeit to the person aggrieved the thing or things so devised, made, constructed, used, employed, or vended, contrary to the true intent of this act, which may be recovered in an action on the case, founded on this act.

Damages to be assessed by a jury.

Patents surreptitiously obtained.

SEC. 5. *And be it further enacted*, That, upon oath or affirmation made before the judge of the District Court where the defendant resides, that any patent which shall be issued in pursuance of this act, was obtained surreptitiously by, or upon false suggestion, and motion made to the said court, within one year after issuing the said patent, but not afterwards, it shall and may be lawful to and for the judge of the said District Court, if the matter alleged shall appear to him to be sufficient, to grant a rule that the patentee or patentees, his, her, or their executors, administrators, or assigns, show cause why process should not issue against him, her, or them, to repeal such patents; and if sufficient cause shall not be shown to the contrary, the rule shall be made absolute, and thereupon the said judge shall order

How to be repealed.

process to be issued, as aforesaid, against such patentee or patentees, his, her, or their executors, administrators, or assigns. And in case no sufficient cause shall be shown to the contrary, or if it shall appear that the patentee was not the first and true inventor or discoverer, judgment shall be rendered by such court for the repeal of such patent or patents; and if the party, at whose complaint the process issued, shall have judgment given against him, he shall pay all such costs as the defendant shall be put to, in defending the suit, to be taxed by the court, and recovered in such manner as costs expended by defendants shall be recovered in due course of law.

In actions for penalty, patents to be deemed *primâ facie* evidence of the first discovery; but special matter may be given in evidence; and to what effect.

SEC. 6. *And be it further enacted*, That, in all actions to be brought by such patentee or patentees, his, her, or their executors, administrators, or assigns, for any penalty incurred by virtue of this act, the said patents or specifications shall be *primâ facie* evidence, that the said patentee or patentees was or were the first and true inventor or inventors, discoverer or discoverers, of the thing so specified, and that the same is truly specified; but that, nevertheless, the defendant or defendants may plead the general issue, and give this act, and any special matter whereof notice in writing shall have been given to the plaintiff, or his attorney, thirty days before the trial, in evidence, tending to prove that the specification filed by the plaintiff does not contain the whole of the truth concerning his invention or discovery; or that it contains more than is necessary to produce the effect described; and, if the concealment of part, or the addition of more than is necessary, shall appear to have been intended to mislead, or shall actually mislead the public, so as the effect described cannot be produced by the means specified, then, and in such cases, the verdict and judgment shall be for the defendant.

Patent fees.

SEC. 7. *And be it further enacted*, That such patentee as aforesaid shall, before he receives his patent, pay the following fees, to the several officers employed in making out and perfecting the same, to wit: For receiving and filing the petition, fifty cents; for filing specifications, per copy-sheet, containing one hundred words, ten cents; for making out patent, two dollars; for affixing great seal, one dollar;

for indorsing the day of delivering the same to the patentee, including all intermediate services, twenty cents.

Approved April 10, 1790.

CHAP. IX. — AN ACT to promote the progress of useful arts, and to repeal the act heretofore made for that purpose.

Act of 1790, chap. 7.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That, when any person or persons, being a citizen or citizens of the United States, shall allege that he or they have invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter, not known or used before the application, and shall present a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the same, and praying that a patent may be granted therefor, it shall and may be lawful for the said Secretary of State to cause letters-patent to be made out, in the name of the United States, bearing teste by the President of the United States, reciting the allegations and suggestions of the said petition, and giving a short description of the said invention or discovery, and thereupon granting to such petitioner or petitioners, his, her, or their heirs, administrators, or assigns, for a term not exceeding fourteen years, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention or discovery, which letters-patent shall be delivered to the Attorney-General of the United States, to be examined; who, within fifteen days after such delivery, if he finds the same conformable to this act, shall certify accordingly, at the foot thereof, and return the same to the Secretary of State, who shall present the letters-patent, thus certified, to be signed, and shall cause the seal of the United States to be thereto affixed; and the same shall be good and available to the grantee or grantees, by force of this act, and shall be recorded in a book, to be kept for that purpose, in

Letters-patent, how and by whom made out.

Act of April 10, 1799, ch. 33, repealed.

To bear teste by the President, and

be examined by the Attorney-General.

1800, ch. 25.

the office of the Secretary of State, and delivered to the patentee or his order.

The liberty of using an improvement defined.

SEC. 2. *Provided always, and be it further enacted*, That any person who shall have discovered an improvement in the principle of any machine, or in the process of any composition of matter, which have been patented, and shall have obtained a patent for such improvement, shall not be at liberty to make, use, or vend the original discovery, nor shall the first inventor be at liberty to use the improvement: And it is hereby enacted and declared, that simply changing the form or the proportions of any machine, or composition of matter, in any degree, shall not be deemed a discovery.

Changing the form or proportions of any machine, &c., not to be a discovery.

How to proceed to obtain letters-patent.

1800, ch. 25, sec. 2.

SEC. 3. *And be it further enacted*, That every inventor, before he can receive a patent, shall swear or affirm, that he does verily believe that he is the true inventor or discoverer of the art, machine, or improvement, for which he solicits a patent, which oath or affirmation may be made before any person authorized to administer oaths, and shall deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms, as to distinguish the same from all other things before known, and to enable any person, skilled in the art or science of which it is a branch, or with which it is most nearly connected, to make, compound, and use the same. And, in the case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions; and he shall accompany the whole with drawings and written references, where the nature of the case admits of drawings, or with specimens of the ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention is of a composition of matter; which description, signed by himself, and attested by two witnesses, shall be filed in the office of the Secretary of State, and certified copies thereof shall be competent evidence in all courts, where any matter or thing, touching such patent-right, shall come in question. And such inventor shall, moreover, deliver a model of his

Specification.

Specification.

machine, provided the Secretary shall deem such model to be necessary.

Inventors may assign their titles. Record of assignment to be made in the office of the Secretary of State.

SEC. 4. *And be it further enacted*, That it shall be lawful for any inventor, his executor, or administrator, to assign the title and interest in the said invention, at any time, and the assignee, having recorded the said assignment in the office of the Secretary of State, shall thereafter stand in the place of the original inventor, both as to right and responsibility, and so the assignee of assigns, to any degree.

Forfeiture on using patented inventions without leave.

SEC. 5. *And be it further enacted*, That, if any person shall make, devise, and use, or sell the thing so invented, the exclusive right of which shall, as aforesaid, have been secured to any person by patent, without the consent of the patentee, his executors, administrators, or assigns, first obtained in writing, every person so offending, shall forfeit and pay to the patentee a sum, that shall be at least equal to three times the price for which the patentee has usually sold or licensed to other persons, the use of the said invention; which may be recovered in an action on the case founded on this act, in the Circuit Court of the United States, or any other court having competent jurisdiction.

Three times the price to be the penalty. How recovered.

How defendants may give this act in evidence.

SEC. 6. *Provided always, and be it further enacted*, That the defendant in such action shall be permitted to plead the general issue, and give this act and any special matter, of which notice in writing may have been given to the plaintiff, or his attorney, thirty days before trial, in evidence, tending to prove that the specification, filed by the plaintiff, does not contain the whole truth relative to his discovery, or that it contains more than is necessary to produce the described effect, which concealment or addition shall fully appear to have been made for the purpose of deceiving the public, or that the thing, thus secured by patent, was not originally discovered by the patentee, but had been in use, or had been described in some public work, anterior to the supposed discovery of the patentee, or that he had surreptitiously obtained a patent for the discovery of another person: in either of which cases, judgment shall be rendered for the defendant, with costs, and the patent shall be declared void.

And judgment shall be given.

State rights to inventions, when to be deemed void.

SEC. 7. *And be it further enacted*, That, where any State, before its adoption of the present form of government, shall have granted an exclusive right to any invention, the party claiming that right, shall not be capable of obtaining an exclusive right under this act, but on relinquishing his right under such particular State, and of such relinquishment, his obtaining an exclusive right under this act shall be sufficient evidence.

How applications depending under former law shall be prosecuted under this act.

SEC. 8. *And be it further enacted*, That the persons, whose applications for patents were, at the time of passing this act, depending before the Secretary of State, Secretary at War, and Attorney-general, according to the act, passed the second session of the first Congress, intituled "An Act to promote the progress of useful arts," on complying with the conditions of this act, and paying the fees herein required, may pursue their respective claims to a patent under the same.

1790, ch. 7.

Proceedings to be had on interfering applications.

SEC. 9. *And be it further enacted*, That, in case of interfering applications, the same shall be submitted to the arbitration of three persons, one of whom shall be chosen by each of the applicants, and the third person shall be appointed by the Secretary of State; and the decision or award of such arbitrators, delivered to the Secretary of State in writing, and subscribed by them or any two of them, shall be final, as far as respects the granting of the patent: And if either of the applicants shall refuse or fail to choose an arbitrator, the patent shall issue to the opposite party. And where there shall be more than two interfering applications, and the parties applying shall not all unite in appointing three arbitrators, it shall be in the power of the Secretary of State to appoint three arbitrators for the purpose.

And against persons surreptitiously obtaining patents.

SEC. 10. *And be it further enacted*, That, upon oath or affirmation being made before the judge of the district court, where the patentee, his executors, administrators, or assigns reside, that any patent, which shall be issued in pursuance of this act, was obtained surreptitiously, or upon false suggestion, and motion made to the said court, within three years after issuing the said patent, but not afterwards, it shall and may be lawful for the judge of the said district

court, if the matter alleged shall appear to him to be sufficient, to grant a rule, that the patentee, or his executor, administrator, or assign, show cause why process should not issue against him, to repeal such patent. And if sufficient cause shall not be shown to the contrary, the rule shall be made absolute, and thereupon the said judge shall order process to be issued against such patentee, or his executors, administrators, or assigns, with costs of suit. And in case no sufficient cause shall be shown to the contrary, or if it shall appear that the patentee was not the true inventor or discoverer, judgment shall be rendered by such court for the repeal of such patent; and if the party, at whose complaint the process issued, shall have judgment given against him, he shall pay all such costs as the defendant shall be put to in defending the suit, to be taxed by the court, and recovered in due course of law.

Repeal of a patent illegally obtained.

SEC. 11. *And be it further enacted*, That every inventor, before he presents his invention to the Secretary of State, signifying his desire of obtaining a patent, shall pay into the treasury thirty dollars, for which he shall take duplicate receipts; one of which receipts he shall deliver to the Secretary of State, when he presents his petition; and the money thus paid shall be in full for the sundry services to be performed in the office of the Secretary of State, consequent on such petition, and shall pass to the account of clerk-hire in that office. *Provided, nevertheless*, That, for every copy, which may be required at the said office, of any paper respecting any patent that has been granted, the person obtaining such copy shall pay, at the rate of twenty cents for every copy-sheet of one hundred words, and for every copy of a drawing, the party obtaining the same shall pay two dollars; of which payments an account shall be rendered, annually, to the treasury of the United States, and they shall also pass to the account of clerk-hire in the office of the Secretary of State.

Inventor, before presenting petition, to pay $30 into the treasury.

Copying fees.

SEC. 12. *And be it further enacted*, That the act, passed the tenth day of April, in the year one thousand seven hundred and ninety, entitled "An Act to promote the progress of useful arts," be, and the same is hereby repealed. *Provided always*, That nothing contained in this act shall be

Act of April 10, 1790, ch. 7, repealed.

Proviso.

construed to invalidate any patent that may have been granted under the authority of the said act; and all patentees under the said act, their executors, administrators, and assigns, shall be considered within the purview of this act, in respect to the violation of their rights; provided, such violations shall be committed after the passing of this act.

Approved February 21, 1793.

(Obsolete.)

CHAP. LVIII. — AN ACT supplementary to the act, intituled "An Act to promote the progress of useful arts."

Suits, &c., had under certain act revived.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That all suits, actions, process and proceedings, heretofore had in any district court of the United States, under an act passed the tenth day of April, in the year one thousand seven hundred and ninety, intitled "An Act to promote the progress of useful arts," which may have been set aside, suspended, or abated, by reason of the repeal of the said act, may be restored, at the instance of the plaintiff or defendant, within one year from and after the passing of this act, in the said courts, to the same situation, in which they may have been when they were so set aside, suspended, or abated; and that the parties to the said suits, actions, process, or proceedings, be, and are hereby intitled to proceed in such cases, as if no such repeal of the act aforesaid had taken place. *Provided always*, That before any order or proceeding, other than that for continuing the same suits, after the reinstating thereof, shall be entered or had, the defendant or plaintiff, as the case may be, against whom the same may have been reinstated, shall be brought into court by summons, attachment, or such other proceeding as is used in other cases for compelling the appearance of a party.

Act of Feb. 21, 1793, ch. 11.

Act of April 10, 1790, ch. 7.

In what manner.

Approved June 7, 1794.

CHAP. XXV. — AN ACT to extend the privilege of obtaining patents for useful discoveries and inventions, to certain persons therein mentioned, and to enlarge and define the penalties for violating the rights of patentees. (Repealed)

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That all and singular the rights and privileges given, intended, or provided to citizens of the United States, respecting patents for new inventions, discoveries, and improvements, by the act intituled "An Act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be, and hereby are extended and given to all aliens, who, at the time of petitioning in the manner prescribed by the said act, shall have resided for two years within the United States, which privileges shall be obtained, used and enjoyed, by such persons, in as full and ample manner, and under the same conditions, limitations and restrictions as by the said act is provided and directed in the case of citizens of the United States. *Provided always*, That every person petitioning for a patent for any invention, art, or discovery, pursuant to this act, shall make oath or affirmation, before some person duly authorized to administer oaths, before such patent shall be granted, that such invention, art, or discovery hath not, to the best of his or her knowledge or belief, been known or used, either in this or any foreign country, and that every patent which shall be obtained pursuant to this act, for any invention, art, or discovery which it shall afterwards appear had been known or used previous to such application for a patent, shall be utterly void.

Aliens having resided two years within the U. States, entitled to the benefit of the former act.

Act of Feb. 21, 1793, ch. 11.

Oath to be taken by such resident, that the invention or discovery hath not been used.

SEC. 2. *And be it further enacted*, That, where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might, by virtue of this or the above-mentioned Act, be granted to such person, and shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent shall devolve on the legal representatives of such person, in trust for the heirs at law of the deceased, in case he shall have died intestate; but if otherwise, then in

The legal representatives of a deceased inventor may obtain a patent.

trust for his devisees, in as full and ample manner, and under the same conditions, limitations and restrictions as the same was held, or might have been claimed or enjoyed, by such person, in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation, provided in the third section of the before-mentioned act, shall be so varied as to be applicable to them.

Damages for breach of patent-right.

SEC. 3. *And be it further enacted*, That, where any patent shall be, or shall have been granted, pursuant to this or the above-mentioned act, and any person, without the consent of the patentee, his or her executors, administrators or assigns, first obtained in writing, shall make, devise, use, or sell the thing whereof the exclusive right is secured to the said patentee by such patent, such person, so offending, shall forfeit and pay to the said patentee, his executors, administrators, or assigns, a sum equal to three times the actual damage sustained by such patentee, his executors, administrators, or assigns, from, or by reason of such offence, which sum shall and may be recovered, by action on the case, founded on this and the above-mentioned act, in the Circuit Court of the United States having jurisdiction thereof.

To be recovered by action on the case in the Circuit Court.

Repeal of part of the former act. Act of Feb. 21, 1793, ch. 11.

SEC. 4. *And be it further enacted*, That the fifth section of the above-mentioned act, intituled, "An Act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be and hereby is repealed.

Approved April 17, 1800.

CHAP. XIX. — AN ACT to extend the jurisdiction of the Circuit Courts of the United States to cases arising under the law relating to patents.

The Circuit Courts to have original cognisance in equity and at law, in controversies respecting the right to inventions and writings.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the Circuit Courts of the United States shall have original cognizance, as well in equity as at law, of all actions, suits, controversies and cases, arising under any law of the United States, granting or confirming to authors or inven-

tors the exclusive right to their respective writings, inventions, and discoveries; and, upon any bill in equity, filed by any party aggrieved in any such cases, shall have authority to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any authors or inventors, secured to them by any laws of the United States, on such terms and conditions as the said Courts may deem fit and reasonable: *Provided, however*, That from all judgments and decrees of any Circuit Courts, rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner, and under the same circumstances, as is now provided by law in other judgments and decrees of such Circuit Courts.

Act of Feb. 21, 1793, ch. 11. Act of May 31, 1790, ch. 15. Proviso.

Approved February 15, 1819.

CHAP. CLXII.—An Act concerning patents for useful inventions.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That it shall be the duty of the Secretary of State, annually, in the month of January, to report to Congress, and to publish in two of the newspapers printed in the city of Washington, a list of all the patents for discoveries, inventions, and improvements, which shall have expired within the year immediately preceding, with the names of the patentees, alphabetically arranged.

Act of July 4, 1836, ch. 357. List of expired patents to be annually reported to Congress.

Sec. 2. *And be it further enacted*, That application to Congress to prolong or renew the term of a patent, shall be made before its expiration, and shall be notified at least once a month, for three months before its presentation, in two newspapers printed in the city of Washington, and in one of the newspapers in which the laws of the United States shall be published, in the State or territory in which the patentee shall reside. The petition shall set forth particularly the grounds of the application. It shall be verified by oath; the evidence in its support may be taken before any judge or justice of the peace; it shall be accompanied by a statement of the ascertained value of the discovery, invention, or improvement, and of the receipts and expenditures of the patentee, so as to exhibit the profit or loss arising therefrom.

Form of application to prolong or renew patent.

Patent to be invalid in case of inventor not having complied with the terms, &c.

SEC. 3. *And be it further enacted*, That, wherever any patent which has been heretofore, or shall be hereafter, granted to any inventor, in pursuance of the Act of Congress intituled "An Act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," passed on the twenty-first day of February, in the year of our Lord one thousand seven hundred and ninety-three, or any of the acts supplementary thereto, shall be invalid or inoperative, by reason that any of the terms or conditions prescribed in the third section of the said first mentioned act, have not, by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, been complied with on the part of the said inventor, it shall be lawful for the Secretary of State, upon the surrender to him of such patent, to cause a new patent to be granted to the said inventor, for the same invention, for the residue of the period then unexpired, for which the original patent was granted, upon his compliance with the terms and conditions prescribed in the said third section of the said act. And, in case of his death, or any assignment by him made of the same patent, the like right shall vest in his executors and administrators, or assignee or assignees: *Provided, however*, That such new patent, so granted, shall, in all respects, be liable to the same matters of objection and defence as any original patent, granted under the said first mentioned act. But no public use or privilege of the invention so patented, derived from or after the grant of the original patent, either under any special license of the inventor, or without the consent of the patentee that there shall be a free public use thereof, shall, in any manner, prejudice his right of recovery for any use or violation of his invention, after the grant of such new patent as aforesaid.

1793, ch. 11.

Secretary of State, upon surrender, &c., to grant a new patent.

In case of death, &c., right to vest, in executors, &c.

Proviso.

Approved July 3, 1832.

CHAP. CCIII. — AN ACT concerning the issuing of patents to aliens, for useful discoveries and inventions.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the privileges granted to the aliens described in the

first section of the act, to extend the privilege of obtaining patents for useful discoveries and inventions to certain persons therein mentioned, and to enlarge and define the penalties for violating the rights of patentees, approved April seventeenth, eighteen hundred, be extended, in like manner, to every alien, who, at the time of petitioning for a patent, shall be resident in the United States, and shall have declared his intention, according to law, to become a citizen thereof: *Provided*, That every patent granted by virtue of this act, and the privileges thereto appertaining, shall cease and determine, and become absolutely void, without resort to any legal process to annul and cancel the same, in case of a failure on the part of any patentee, for the space of one year from the issuing thereof, to introduce into public use, in the United States, the invention or improvement for which the patent shall be issued; or in case the same, for any period of six months after such introduction, shall not continue to be publicly used and applied in the United States, or in case of failure to become a citizen of the United States, agreeably to notice given at the earliest period within which he shall be entitled to become a citizen of the United States.

The privileges granted to aliens extended.

Act of April 17, 1800, ch. 25.

Proviso.

Approved July 13, 1832.

CHAP. CCCLVII. — AN ACT to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That there shall be established and attached to the Department of State an office to be denominated the Patent Office, the chief officer of which shall be called the Commissioner of Patents, to be appointed by the President, by and with the advice and consent of the Senate, whose duty it shall be, under the direction of the Secretary of State, to superintend, execute, and perform all such acts and things, touching and respecting the granting and issuing of patents for new and useful discoveries, inventions, and improvements, as are herein provided for, or shall hereafter be, by law, directed to

March 3, 1837, ch. 48.

Commissioner of Patents to be appointed, and his duties.

August 29, 1842, ch. 263.

be done and performed, and shall have the charge and custody of all the books, records, papers, models, machines, and all other things belonging to said office. And said Commissioner shall receive the same compensation as is allowed by law to the Commissioner of the Indian Department, and shall be entitled to send and receive letters and packages by mail, relating to the business of the office, free of postage.

Chief clerk.

SEC. 2. *And be it further enacted*, That there shall be in said office an inferior officer, to be appointed by the said principal officer, with the approval of the Secretary of State, to receive an annual salary of seventeen hundred dollars, and to be called the chief clerk of the Patent Office, who, in all cases during the necessary absence of the Commissioner, or when the said principal office shall become vacant, shall have the charge and custody of the seal, and of the records, books, papers, machines, models, and all other things, belonging to the said office, and shall perform the duties of Commissioner during such vacancy. And the said Commissioner may also, with like approval, appoint an examining clerk, at an annual salary of fifteen hundred dollars; two other clerks, at twelve hundred dollars each, one of whom shall be a competent draughtsman; one other clerk, at one thousand dollars; a machinist, at twelve hundred and fifty dollars; and a messenger, at seven hundred dollars. And said Commissioner, clerks, and every other person appointed and employed in said office, shall be disqualified and interdicted from acquiring or taking, except by inheritance, during the period for which they shall hold their appointments, respectively, any right or interest, directly or indirectly, in any patent for an invention or discovery which has been, or may hereafter be, granted.

Examining clerk, and other officers.

Officers to make oath &c.

SEC. 3. *And be it further enacted*, That the said principal officer, and every other person to be appointed in the said office, shall, before he enters upon the duties of his office or appointment, make oath or affirmation truly and faithfully to execute the trust committed to him. And the said Commissioner and the chief clerk shall also, before entering upon their duties, severally give bonds,

with sureties, to the Treasurer of the United States, the former in the sum of ten thousand dollars, and the latter in the sum of five thousand dollars, with condition to render a true and faithful account to him or his successor in office, quarterly, of all moneys which shall be by them respectively received for duties on patents, and for copies of records and drawings, and all other moneys received by virtue of said office.

A seal to be provided.

SEC. 4. *And be it further enacted*, That the said Commissioner shall cause a seal to be made and provided for the said office, with such device as the President of the United States shall approve; and copies of any records, books, papers, or drawings, belonging to the said office, under the signature of the said Commissioner, or, when the office shall be vacant, under the signature of the chief clerk, with the said seal affixed, shall be competent evidence, in all cases in which the original records, books, papers, or drawings, could be evidence. And any person making application therefor, may have certified copies of the records, drawings, and other papers deposited in said office, on paying, for the written copies, the sum of ten cents for every page of one hundred words; and for copies of drawings, the reasonable expense of making the same.

Patents to be signed by the Secretary of State and by the Commissioner.

SEC. 5. *And be it further enacted*, That all patents issued from said office shall be issued in the name of the United States, and under the seal of said office, and be signed by the Secretary of State, and countersigned by the Commissioner of the said office, and shall be recorded, together with the descriptions, specifications, and drawings, in the said office, in books to be kept for that purpose. Every such patent shall contain a short description or title of the invention or discovery, correctly indicating its nature and design, and, in its terms, grant to the applicant or applicants, his or their heirs, administrators, executors, or assigns, for a term not exceeding fourteen years, the full and exclusive right and liberty of making, using, and vending to others to be used, the said invention or discovery, referring to the specifications for the particulars thereof, a copy of which shall be annexed to the patent, speci-

be done and performed, and shall have the charge and custody of all the books, records, papers, models, machines, and all other things belonging to said office. And said Commissioner shall receive the same compensation as is allowed by law to the Commissioner of the Indian Department, and shall be entitled to send and receive letters and packages by mail, relating to the business of the office, free of postage.

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A seal to be provided.

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fying what the patentee claims as his invention or discovery.

Applications, how made.

SEC. 6. *And be it further enacted*, That any person or persons, having discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvements on any art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof, and not, at the time of his application for a patent, in public use or on sale, with his consent or allowance, as the inventor or discoverer, and shall desire to obtain an exclusive property therein, may make application in writing, to the Commissioner of Patents, expressing such desire, and the Commissioner, on due proceedings had, may grant a patent therefor. But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and, in case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery. He shall, furthermore, accompany the whole with a drawing or drawings, and written references, where the nature of the case admits of drawings; or with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter; which descriptions and drawings, signed by the inventor, and attested by two witnesses, shall be filed in the Patent Office; and he shall, moreover, furnish a model of his invention, in all cases which admit of a representation by model, of a convenient size to exhibit advantageously its several parts. The applicant shall also make oath, or affirmation, that he

Specification.

Drawings, &c.

Models.

Oath or affirmation.

does verily believe that he is the original and first inventor or discoverer of the art, machine, composition, or improvement, for which he solicits a patent; and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen; which oath or affirmation may be made before any person authorized by law to administer oaths.

Examination of invention, to be made, and proceedings thereon, should it not be deemed new.

SEC. 7. *And be it further enacted*, That, on the filing of any such application, description, and specification, and the payment of the duty hereinafter provided, the Commissioner shall make, or cause to be made, an examination of the alleged new invention or discovery; and if, on any such examination, it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country, prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication, in this or any foreign country, or had been in public use or on sale, with the applicant's consent or allowance, prior to the application, if the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor. But whenever, on such examination, it shall appear to the Commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented or discovered, or patented, or described in any printed publication, in this or any foreign country, as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and reference as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new. In every such case, if the applicant shall elect to withdraw his application, relinquishing his claim to the model, he shall be entitled to receive back twenty dollars, part of the duty required by this act, on filing a notice in writing of such election in the Patent Office; a copy of which, certified by the Commissioner, shall be a sufficient warrant to the treasurer for paying back to the said applicant the said sum of twenty dollars. But if the applicant,

in such case, shall persist in his claims for a patent, with or without any alteration of his specification, he shall be required to make oath or affirmation anew, in manner as aforesaid; and if the specification and claim shall not have been so modified as, in the opinion of the Commissioner, shall entitle the applicant to a patent, he may, on appeal, and upon request in writing, have the decision of a board of examiners, to be composed of three disinterested persons, who shall be appointed for that purpose by the Secretary of State, one of whom, at least, to be selected, if practicable and convenient, for his knowledge and skill in the particular art, manufacture, or branch of science to which the alleged invention appertains; who shall be under oath or affirmation for the faithful and impartial performance of the duty imposed upon them by said appointment. Said board shall be furnished with a certificate in writing of the opinion and decision of the Commissioner, stating the particular grounds of his objection, and the part or parts of the invention which he considers as not entitled to be patented. And the said board shall give reasonable notice to the applicant, as well as to the Commissioner, of the time and place of their meeting, that they may have an opportunity of furnishing them with such facts and evidence as they may deem necessary to a just decision; and it shall be the duty of the Commissioner to furnish to the board of examiners such information as he may possess, relative to the matter under their consideration. And on an examination and consideration of the matter by such board, it shall be in their power, or of a majority of them, to reverse the decision of the Commissioner, either in whole or in part; and, their opinion being certified to the Commissioner, he shall be governed thereby in the further proceedings to be had on such application: *Provided however*, That, before a board shall be instituted in any such case, the applicant shall pay to the credit of the treasury, as provided in the ninth section of this act, the sum of twenty-five dollars; and each of said persons, so appointed, shall be entitled to receive, for his services, in each case, a sum not exceeding ten dollars, to be determined and paid by the Commissioner, out of any moneys in his hands, which shall be in full compensation to the

Proviso.

persons who may be so appointed, for their examination and certificate as aforesaid.

Interfering applications.

SEC. 8. *And be it further enacted*, That, whenever an application shall be made for a patent, which, in the opinion of the Commissioner, would interfere with any other patent for which an application may be pending, or with any unexpired patent which shall have been granted, it shall be the duty of the Commissioner to give notice thereof to such applicants, or patentees, as the case may be; and if either shall be dissatisfied with the decision of the Commissioner on the question of priority of right or invention, on a hearing thereof, he may appeal from such decision, on the like terms and conditions as are provided in the preceding section of this act, and the like proceedings shall be had to determine which, or whether either, of the applicants is entitled to receive a patent as prayed for. But nothing in this act contained shall be construed to deprive an original and true inventor of the right to a patent for his invention, by reason of his having previously taken out letters-patent therefor in a foreign country, and the same having been published, at any time within six months next preceding the filing of his specification and drawings. And, whenever the applicant shall request it, the patent shall take date from the time of filing of the specifications and drawings, not, however, exceeding six months prior to the actual issuing of the patent; and, on like request, and the payment of the duty herein required, by any applicant, his specification and drawings shall be filed in the secret archives of the office, until he shall furnish the model and the patent be issued, not exceeding the term of one year, the applicant being entitled to notice of interfering applications.

Thirty dollars to be paid to the credit of the United States treasurer by a citizen, or, &c.

SEC. 9. *And be it further enacted*, That, before any application for a patent shall be considered by the Commissioner as aforesaid, the applicant shall pay into the Treasury of the United States, or into the Patent Office, or into any of the deposit banks, to the credit of the treasury, if he be a citizen of the United States, or an alien, and shall have been resident in the United States for one year next preceding, and shall have made oath of his intention to become a citizen thereof, the sum of thirty dollars; if a subject of

Five hundred dollars by a subject of G. Britain, and three hundred by other persons.

the King of Great Britain, the sum of five hundred dollars; and all other persons the sum of three hundred dollars; for which payment duplicate receipts shall be taken, one of which to be filed in the office of the treasurer. And the moneys received into the treasury under this act shall constitute a fund for the payment of the salaries of the officers and clerks herein provided for, and all other expenses of the Patent Office, and to be called the patent fund.

Inventors dying without taking a patent, their executors, &c., may, &c.

SEC. 10. *And be it further enacted*, That, where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might by virtue of this act be granted, and such person shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent shall devolve on the executor or administrator of such person, in trust for the heirs at law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under the same conditions, limitations, and restrictions as the same was held, or might have been claimed or enjoyed by such person in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation provided in the sixth section of this act shall be so varied as to be applicable to them.

Assignment of a patent, and record thereof.

SEC. 11. *And be it further enacted*, That every patent shall be assignable in law, either as to the whole interest, or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right under any patent, to make and use, and to grant to others to make and use, the thing patented, within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof, for which the assignee or grantee shall pay to the Commissioner the sum of three dollars.

Caveat may be entered.

SEC. 12. *And be it further enacted*, That any citizen of the United States, or alien, who shall have been a resident of the United States one year next preceding, and shall have made oath of his intention to become a citizen thereof, who shall have invented any new art, machine, or improve-

ment thereof, and shall desire further time to mature the same, may, on paying to the credit of the treasury, in manner as provided in the ninth section of this act, the sum of twenty dollars, file in the Patent Office a caveat, setting forth the design and purpose thereof, and its principal and distinguishing characteristics, and praying protection of his right, till he shall have matured his invention; which sum of twenty dollars, in case the person filing such caveat shall afterwards take out a patent for the invention therein mentioned, shall be considered a part of the sum herein required for the same. And such caveat shall be filed in the confidential archives of the office, and preserved in secresy. And if application shall be made by any other person, within one year from the time of filing such caveat, for a patent of any invention with which it may in any respect interfere, it shall be the duty of the Commissioner to deposit the description, specifications, drawings and model, in the confidential archives of the office, and to give notice (by mail) to the person filing the caveat of such application, who shall, within three months after receiving the notice, if he would avail himself of the benefit of his caveat, file his description, specification, drawings and model; and if, in the opinion of the Commissioner, the specifications of claim interfere with each other, like proceedings may be had in all respects as are in this act provided in the case of interfering applications. *Provided, however*, That no opinion or decision of any board of examiners, under the provisions of this act, shall preclude any person interested in favor of or against the validity of any patent which has been or may hereafter be granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question. Proviso.

Patents invalid from defective specifications may be surrendered, and new patents may be issued in certain cases.

SEC. 13. *And be it further enacted*, That, whenever any patent, which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a right to claim as new, if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent

or deceptive intention, it shall be lawful for the Commissioner, upon the surrender to him of such patent, and the payment of the further duty of fifteen dollars, to cause a new patent to be issued to the said inventor, for the same invention, for the residue of the period then unexpired, for which the original patent was granted, in accordance with the patentee's corrected description and specification. And in case of his death, or any assignment by him made of the original patent, a similar right shall vest in his executors, administrators, or assignees. And the patent so reissued, together with the corrected description and specifications, shall have the same effect and operation in law, on the trial of all actions hereafter commenced for causes subsequently accruing, as though the same had been originally filed in such corrected form, before the issuing of the original patent. And whenever the original patentee shall be desirous of adding the description and specification of any new improvement of the original invention or discovery, which shall have been invented or discovered by him subsequent to the date of his patent, he may, like proceedings being had in all respects as in the case of original applications, and on the payment of fifteen dollars, as hereinbefore provided, have the same annexed to the original description and specification; and the Commissioner shall certify, on the margin of such annexed description and specification, the time of its being annexed and recorded; and the same shall thereafter have the same effect in law, to all intents and purposes, as though it had been embraced in the original description and specification.

Patentee may make additions to his patent.

Courts may render judgment for a sum not exceeding three times the amount of actual damages.

SEC. 14. *And be it further enacted*, That whenever, in any action for damages [for] making, using, or selling the thing whereof the exclusive right is secured by any patent heretofore granted, or by any patent which may hereafter be granted, a verdict shall be rendered for the plaintiff in such action, it shall be in the power of the Court to render judgment of any sum above the amount found by such verdict as the actual damages sustained by the plaintiff, not exceeding three times the amount thereof, according to the circumstances of the case, with costs; and such damages may be recovered by action on the case, in any court of

competent jurisdiction, to be brought in the name or names of the person or persons interested, whether as patentee, assignees, or as grantees of the exclusive right within and throughout a specified part of the United States.

Defendant may plead the general issue, &c.

SEC. 15. *And be it further enacted*, That the defendant in any such action shall be permitted to plead the general issue, and to give this act and any special matter in evidence, of which notice in writing may have been given to the plaintiff or his attorney, thirty days before trial, tending to prove that the description and specification filed by the plaintiff, does not contain the whole truth relative to his invention or discovery, or that it contains more than is necessary to produce the described effect, which concealment or addition shall fully appear to have been made for the purpose of deceiving the public; or that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new; or that it had been described in some public work, anterior to the supposed discovery thereof by the patentee, or had been in public use, or on sale, with the consent and allowance of the patentee, before his application for a patent; or that he had surreptitiously or unjustly obtained the patent for that which was, in fact, invented or discovered by another, who was using reasonable diligence in adapting and perfecting the same; or that the patentee, if an alien at the time the patent was granted, had failed and neglected, for the space of eighteen months from the date of the patent, to put and continue on sale to the public, on reasonable terms, the invention or discovery for which the patent issued; and whenever the defendant relies in his defence on the fact of a previous invention, knowledge, or use of the thing patented, he shall state, in his notice of special matter, the names and places of residence of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the same had been used; in either of which cases, judgment shall be rendered for the defendant, with costs: *Provided, however*, That, whenever it shall satisfactorily appear that the patentee, at the time of making his application for the patent, believed himself to be the first inventor or discoverer of the thing patented, the same shall not be

Proviso.

void on account of the invention or discovery, or any part thereof, having been before known or used in any foreign country; it not appearing that the same, or any substantial part thereof, had before been patented or described in any printed publication; *And provided, also*, That, whenever the plaintiff shall fail to sustain his action, on the ground that in his specification or claim is embraced more than that of which he was the first inventor, if it shall appear that the defendant had used or violated any part of the invention justly and truly specified and claimed as new, it shall be in the power of the Court to adjudge and award, as to costs, as may appear to be just and equitable.

Proviso.

Interfering patents, &c.

SEC. 16. *And be it further enacted*, That, whenever there shall be two interfering patents, or whenever a patent or application shall have been refused on an adverse decision of a board of examiners, on the ground that the patent applied for would interfere with an unexpired patent previously granted, any person interested in any such patent, either by assignment or otherwise, in the one case, and any such applicant, in the other case, may have remedy by bill in equity; and the Court having cognizance thereof, on notice to adverse parties, and other due proceedings had, may adjudge and declare either the patents void in the whole or in part, or inoperative and invalid in any particular part or portion of the United States, according to the interest which the parties to such suit may possess in the patent or the inventions patented, and may also adjudge that such applicant is entitled, according to the principles and provisions of this act, to have and receive a patent for his invention, as specified in his claim, or for any part thereof, as the fact of priority of right or invention shall, in any such case, be made to appear. And such adjudication, if it be in favor of the right of such applicant, shall authorize the Commissioner to issue such patent, on his filing a copy of the adjudication, and otherwise complying with the requisitions of this act: *Provided, however*, that no such judgment or adjudication shall affect the rights of any person, except the parties to the action, and those deriving title from or under them subsequent to the rendition of such judgment.

Proviso.

SEC. 17. *And be it further enacted*, That all actions,

suits, controversies and cases, arising under any law of the United States, granting or confirming to inventors the exclusive right to their inventions or discoveries, shall be originally cognizable, as well in equity as at law, by the Circuit Courts of the United States, or any District Court having the powers and jurisdiction of a Circuit Court; which Courts shall have power, upon a bill in equity filed by any party aggrieved, in any such case, to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any inventor, as secured to him by any law of the United States, on such terms and conditions as said courts may deem reasonable: *Provided, however*, That from all judgments and decrees from any such court rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner and under the same circumstances as is now provided by law in other judgments and decrees of Circuit Courts, and in all other cases in which the Court shall deem it reasonable to allow the same.

Actions cognizable in Circuit Courts of the U. S., &c.

Proviso.

SEC. 18. *And be it further enacted*, That, whenever any patentee of an invention or discovery shall desire an extension of his patent beyond the term of its limitation, he may make application therefor, in writing, to the Commissioner of the Patent Office, setting forth the grounds thereof; and the Commissioner shall, on the applicant's paying the sum of forty dollars to the credit of the treasury, as in the case of an original application for a patent, cause to be published in one or more of the principal newspapers in the city of Washington, and in such other paper or papers as he may deem proper, published in the section of country most interested adversely to the extension of the patent, a notice of such application, and of the time and place when and where the same will be considered, that any person may appear and show cause why the extension should not be granted. And the Secretary of State, the Commissioner of the Patent Office, and the Solicitor of the Treasury, shall constitute a board to hear and decide upon the evidence produced before them, both for and against the extension, and shall sit, for that purpose, at the time and place designated in the pub-

Patents may be extended seven years in certain cases.

lished notice thereof. The patentee shall furnish to said board a statement in writing, under oath, of the ascertained value of the invention, and of his receipts and expenditures, sufficiently in detail to exhibit a true and faithful account of loss and profit in any manner accruing to him from and by reason of said invention. And if, upon a hearing of the matter, it shall appear to the full and entire satisfaction of said board, having due regard to the public interest therein, that it is just and proper that the term of the patent should be extended, by reason of the patentee, without neglect or fault on his part, having failed to obtain, from the use and sale of his invention, a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use, it shall be the duty of the Commissioner to renew and extend the patent, by making a certificate thereon of such extension, for the term of seven years from and after the expiration of the first term; which certificate, with a certificate of said board of their judgment and opinion as aforesaid, shall be entered on record in the Patent Office; and thereupon the said patent shall have the same effect in law as though it had been originally granted for the term of twenty-one years; and the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein: *Provided, however*, That no extension of a patent shall be granted after the expiration of the term for which it was originally issued.

Proviso.

Library of Patent Office.

SEC. 19. *And be it further enacted*, That there shall be provided, for the use of the said office, a library of scientific works and periodical publications, both foreign and American, calculated to facilitate the discharge of the duties hereby required of the chief officers therein, to be purchased under the direction of the Committee of the Library of Congress. And the sum of fifteen hundred dollars is hereby appropriated for that purpose, to be paid out of the Patent Fund.

Models to be classified and arranged.

SEC. 20. *And be it further enacted*, That it shall be the duty of the Commissioner to cause to be classified and arranged, in such rooms or galleries as may be provided for that purpose, in suitable cases, when necessary for their

preservation, and in such manner as shall be conducive to a beneficial and favorable display thereof, the models and specimens of compositions and of fabrics, and other manufactures and works of art, patented or unpatented, which have been, or shall hereafter be deposited in said office. And said rooms or galleries shall be kept open during suitable hours, for public inspection.

Former acts repealed.

SEC. 21. *And be it further enacted*, That all acts and parts of acts heretofore passed on this subject be, and the same are hereby repealed: *Provided, however*, That all actions and processes in law or equity, sued out prior to the passage of this act, may be prosecuted to final judgment and execution, in the same manner as though this act had not been passed, excepting and saving the application to any such action of the provisions of the fourteenth and fifteenth sections of this act, so far as they may be applicable thereto: *And provided, also*, That all applications for petitions for patents, pending at the time of the passage of this act, in cases where the duty has been paid, shall be proceeded with and acted on in the same manner as though filed after the passage thereof.

Proviso.

Proviso.

JAMES K. POLK,
Speaker of the House of Representatives.
W. R. KING,
President of the Senate, pro tempore.

Approved July 4, 1836.

ANDREW JACKSON.

CHAP. XLV. — AN ACT in addition to the act to promote the progress of science and useful arts.

Patents issued and assignments executed and recorded prior to 15th December, 1836, may be recorded anew, &c.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That any person who may be in possession of, or in any way interested in, any patent for an invention, discovery, or improvement, issued prior to the fifteenth day of December, in the year of our Lord one thousand eight hundred and thirty-six, or in an assignment of any patent, or interest

therein, executed and recorded prior to the said fifteenth day of December, may, without charge, on presentation or transmission thereof to the Commissioner of Patents, have the same recorded anew in the Patent Office, together with the descriptions, specifications of claim, and drawings annexed or belonging to the same; and it shall be the duty of the Commissioner to cause the same, or any authenticated copy of the original record, specification, or drawing, which he may obtain, to be transcribed and copied into books of record, to be kept for that purpose; and, wherever a drawing was not originally annexed to the patent, and referred to in the specification, any drawing produced as a delineation of the invention, being verified by oath in such manner as the Commissioner shall require, may be transmitted and placed on file, or copied as aforesaid, together with certificate of the oath; or such drawings may be made in the office, under the direction of the Commissioner, in conformity with the specification. And it shall be the duty of the Commissioner to take such measures as may be advised and determined by the Board of Commissioners, provided for in the fourth section of this act, to obtain the patents, specifications, and copies aforesaid, for the purpose of being so transcribed and recorded. And it shall be the duty of each of the several clerks of the judicial courts of the United States to transmit, as soon as may be, to the Commissioner of the Patent Office, a statement of all the authenticated copies of patents, descriptions, specifications and drawings of inventions and discoveries, made and executed prior to the aforesaid fifteenth day of December, which may be found on the files of his office; and also to make out and transmit to said Commissioner, for record as aforesaid, a certified copy of every such patent, description, specification, or drawing, which shall be specially required by said Commissioner.

Measures to be taken to obtain patents, &c., to be recorded, &c.

Clerks of the judicial courts of U. States to transmit statements of authenticated copies of patents, &c., prior to 15th December, 1836, &c.

SEC 2. *And be it further enacted*, That copies of such record and drawings, certified by the Commissioner, or, in his absence, by the chief clerk, shall be *primâ facie* evidence of the particulars of the invention, and of the patent granted therefor, in any Judicial Court of the United States, in all cases where copies of the original record or specifica-

Certified copies of such record, &c., to be evidence in any judicial court of U. S. &c.

tion and drawings would be evidence, without proof of the loss of such originals; and no patent issued prior to the aforesaid fifteenth day of December shall, after the first day of June next, be received in evidence, in any of the said courts, in behalf of the patentee, or other person who shall be in possession of the same, unless it shall have been so recorded anew, and a drawing of the invention, if separate from the patent, verified as aforesaid, deposited in the Patent Office; nor shall any written assignment of any such patent, executed and recorded prior to the said fifteenth day of December, be received in evidence in any of the said courts, in behalf of the assignee, or other person in possession thereof, until it shall have been so recorded anew.

No patent, &c., issued &c., prior to December 15, 1836, to be received in evidence in said courts, after 1st June next, unless recorded anew.

SEC. 3. *And be it further enacted*, That, whenever it shall appear to the Commissioner that any patent was destroyed by the burning of the Patent Office building, on the aforesaid fifteenth day of December, or was otherwise lost prior thereto, it shall be his duty, on application therefor by the patentee, or other person interested therein, to issue a new patent for the same invention or discovery, bearing the date of the original patent, with his certificate thereon, that it was made and issued pursuant to the provisions of the third section of this act, and shall enter the same of record: *Provided, however*, That, before such patent shall be issued, the applicant therefor shall deposit in the Patent Office a duplicate, as near as may be, of the original model, drawings, and descriptions, with specifications of the invention or discovery, verified by oath, as shall be required by the Commissioner; and such patent and copies of such drawings and descriptions, duly certified, shall be admissible as evidence in any Judicial Court of the United States, and shall protect the rights of the patentee, his administrators, heirs, and assigns, to the extent only in which they would have been protected by the original patent and specification.

New patents to be issued for those lost or destroyed on or before December 15, 1836.

Proviso.

SEC. 4. *And be it further enacted*, That it shall be the duty of the Commissioner to procure a duplicate of such of the models destroyed by fire on the aforesaid fifteenth day of December, as were most valuable and interesting, and

Duplicates of certain models to be procured.

whose preservation would be important to the public; and such as would be necessary to facilitate the just discharge of the duties imposed by law on the Commissioner in issuing patents, and to protect the rights of the public and of patentees in patented inventions and improvements: *Provided*, That a duplicate of such models may be obtained at a reasonable expense: *And provided, also*, That the whole amount of expenditure for this purpose shall not exceed the sum of one hundred thousand dollars. And there shall be a temporary board of Commissioners, to be composed of the Commissioner of the Patent Office and two other persons to be appointed by the President, whose duty it shall be to consider and determine upon the best and most judicious mode of obtaining models of suitable construction; and, also, to consider and determine what models may be procured in pursuance of, and in accordance with, the provisions and limitations in this section contained. And said Commissioners may make and establish all such regulations, terms, and conditions, not inconsistent with law, as in their opinion may be proper and necessary to carry the provisions of this section into effect, according to its true intent.

Proviso.

Further proviso.

A temporary board of commissioners to be appointed; their duties.

Patents returned for correction, &c., under the 13th section of the act to which this is additional, &c.

Act of 1836, ch. 357.

Proviso.

SEC. 5. *And be it further enacted*, That, whenever a patent shall be returned for correction and reissue, under the thirteenth section of the act to which this is additional, and the patentee shall desire several patents to be issued for distinct and separate parts of the thing patented, he shall first pay, in manner and in addition to the sum provided by that act, the sum of thirty dollars for each additional patent so to be issued: *Provided, however*, That no patent made prior to the aforesaid fifteenth day of December, shall be corrected and reissued, until a duplicate of the model and drawing of the thing, as originally invented, verified by oath as shall be required by the Commissioner, shall be deposited in the Patent Office. Nor shall any addition of an improvement be made to any patent heretofore granted, nor any new patent be issued for an improvement made in any machine, manufacture, or process, to the original inventor, assignee, or possessor of a patent therefor, nor any disclaimer be admitted to record, until a duplicate model and drawing of the thing originally invented, verified as afore-

No addition &c., to be made to any patent heretofore granted, &c., until a verified duplicate model, &c., is deposited, &c.

said, shall have been deposited in the Patent Office, if the Commissioner shall require the same; nor shall any patent be granted for an invention, improvement, or discovery, the model or drawing of which shall have been lost, until another model and drawing, if required by the Commissioner, shall, in like manner, be deposited in the Patent Office. And in all such cases, as well as in those which may arise under the third section of this act, the question of compensation for such models and drawing, shall be subject to the judgment and decision of the Commissioners provided for in the fourth section, under the same limitations and restrictions as are therein prescribed.

Compensation for models, &c

SEC. 6. *And be it further enacted*, That any patent hereafter to be issued, may be made and issued to the assignee or assignees of the inventor or discoverer, the assignment thereof being first entered of record, and the application therefor being duly made, and the specification duly sworn to by the inventor. And in all cases hereafter, the applicant for a patent shall be held to furnish duplicate drawings, whenever the case admits of drawings, one of which to be deposited in the office, and the other to be annexed to the patent, and considered a part of the specification.

Patents hereafter to be issued.

SEC. 7. *And be it further enacted*, That, whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimer of such parts of the thing patented as the disclaimant shall not claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent; which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall thereafter be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured

Whenever any patentee shall, through inadvertence, &c., make his specification too broad, &c., he, &c., may make disclaimer, &c.

thereby, by the disclaimant, and by those claiming by or under him, subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same.

Applications for additions to newly discovered improvements to be made to existing patents, &c.

SEC. 8. *And be it further enacted*, That, whenever application shall be made to the Commissioner for any addition of a newly discovered improvement to be made to an existing patent, or whenever a patent shall be returned for correction and reissue, the specification of claim annexed to every such patent shall be subject to revision and restriction, in the same manner as are original applications for patents; the Commissioner shall not add any such improvement to the patent in the one case, nor grant the reissue in the other case, until the applicant shall have entered a disclaimer, or altered his specification of claim, in accordance with the decision of the Commissioner; and in all such cases, the applicant, if dissatisfied with such decision, shall have the same remedy, and be entitled to the benefit of the same privileges and proceedings, as are provided by law in the case of original applications for patents.

When, by mistake, &c., any patentee claims to be the original inventor of part of the thing patented, of which he was not, &c.

SEC. 9. *And be it further enacted*, (any thing in the fifteenth section of the act, to which this is additional, to the contrary notwithstanding,) That whenever, by mistake, accident, or inadvertence, and without any wilful default or intent to defraud or mislead the public, any patentee shall have, in his specification, claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bonâ fide* his own: *Provided*, It shall be a material and substantial part of the thing patented, and be definitively distinguishable from the other parts so claimed without right as aforesaid. And every such patentee, his executors, administrators, and assigns, whether of a whole or of a sectional interest therein, shall be entitled to maintain a suit at law or in equity, on such patent, for any infringement of such part of the invention or discovery as

Proviso.

shall be *bonâ fide* his own, as aforesaid, notwithstanding the specification may embrace more than he shall have a legal right to claim. But in every such case, in which a judgment or verdict shall be rendered for the plaintiff, he shall not be entitled to recover costs against the defendant, unless he shall have entered at the Patent Office, prior to the commencement of the suit, a disclaimer to all that part of the thing patented which was so claimed without right: *Provided, however*, That no person bringing any such suit shall be entitled to the benefits of the provisions contained in this section, who shall have unreasonably neglected or delayed enter at the Patent Office a disclaimer, as aforesaid. Further proviso.

Agents to be appointed to receive and forward models, &c.

SEC. 10. *And be it further enacted*, That the Commissioner is hereby authorized and empowered to appoint agents in not exceeding twenty of the principal cities or towns in the United States, as may best accommodate the different sections of the country, for the purpose of receiving and forwarding to the Patent Office all such models, specimens of ingredients and manufactures, as shall be intended to be patented or deposited therein, the transportation of the same to be chargeable to the patent fund.

Two examining and one copying clerk to be appointed.

SEC. 11. *And be it further enacted*, That, instead of one examining clerk, as provided by the second section of the act to which this is additional, there shall be appointed, in manner therein provided, two examining clerks, each to receive an annual salary of fifteen hundred dollars, and, also, an additional copying clerk, at an annual salary of eight hundred dollars. And the Commissioner is also authorized to employ, from time to time, as many temporary clerks as may be necessary to execute the copying and draughting required by the first section of this act, and to examine and compare the records with the originals, who shall receive not exceeding seven cents for every page of one hundred words, and for drawings and comparison of records with originals, such reasonable compensation as shall be agreed upon or prescribed by the Commissioner. Temporary clerks may be employed

Certificate of the Commissioner to be sufficient warrant to the Treasurer.

SEC. 12. *And be it further enacted*, That, whenever the application of any foreigner for a patent shall be rejected and withdrawn, for want of novelty in the invention, pursuant to the seventh section of the act to which this is addi-

tional, the certificate thereof of the Commissioner shall be a sufficient warrant to the Treasurer to pay back to such applicant two thirds of the duty he shall have paid into the Treasury on account of such application.

Affirmation may be substituted for an oath.

SEC. 13. *And be it further enacted*, That, in all cases in which an oath is required by this act, or by the act to which this is additional, if the person of whom it is required shall be conscientiously scrupulous of taking an oath, affirmation may be substituted therefor.

Moneys paid into the treasury for patents, &c., prior to passage of the act to which this is additional, to be carried to credit of patent fund created by said act; and said fund appropriated for salaries, &c. Commissioner authorized to draw upon the same, &c.; and lay before Congress annually a statement of expenditures, &c., and, also, a list of patents, &c.

SEC. 14. *And be it further enacted*, That all moneys paid into the Treasury of the United States for patents, and for fees for copies furnished by the Superintendent of the Patent Office, prior to the passage of the act of which this is additional, shall be carried to the credit of the patent fund created by said act; and the moneys constituting said fund shall be, and the same are hereby, appropriated for the payment of the salaries of the officers and clerks provided by said act, and all other expenses of the Patent Office, including all the expenditures provided for by this act; and, also, for such other purposes as are or may be hereafter specially provided for by law. And the Commissioner is hereby authorized to draw upon said fund, from time to time, for such sums as shall be necessary to carry into effect the provisions of this act, governed, however, by the several limitations herein contained. And it shall be his duty to lay before Congress, in the month of January, annually, a detailed statement of the expenditures and payments by him made from said fund. And it shall also be his duty to lay before Congress, in the month of January, annually, a list of all patents which shall have been granted during the preceding year, designating, under proper heads, the subjects of such patents, and furnishing an alphabetical list of the patentees, with their places of residence; and he shall also furnish a list of all patents which shall have become public property during the same period; together with such other information of the state and condition of the Patent Office as may be useful to Congress or the public.

Approved, March 3d, 1837.

CHAP. LXXXVIII. — AN ACT in addition to an "Act to promote the progress of the useful arts."

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That there shall be appointed, in manner provided in the second section of the act to which this is additional, two assistant examiners, each to receive an annual salary of twelve hundred and fifty dollars. Act of July, 4, 1836, ch. 357. Act of Aug. 29, 1842, ch. 263. Two assistant examiners to be appointed; how; their salaries.

SEC. 2. *And be it further enacted,* That the Commissioner be authorized to employ temporary clerks to do any necessary transcribing, whenever the current business of the office requires it; *Provided, however,* That, instead of salary, a compensation shall be allowed, at a rate not greater than is charged for copies now furnished by the office. Temporary clerks. Proviso.

SEC. 3. *And be it further enacted,* That the Commissioner is hereby authorized to publish a classified and alphabetical list of all patents granted by the Patent Office, previous to said publication, and retain one hundred copies for the Patent Office, and nine hundred copies to be deposited in the library of Congress, for such distribution as may be hereafter directed; and that one thousand dollars, if necessary, be appropriated, out of the patent fund, to defray the expense of the same. List of patents to be published.

SEC. 4. *And be it further enacted,* That the sum of three thousand six hundred and fifty-nine dollars and twenty-two cents be, and is hereby, appropriated from the patent fund, to pay for the use and occupation of rooms in the City Hall by the Patent Office. Pay for use of rooms in City Hall.

SEC. 5. *And be it further enacted,* That the sum of one thousand dollars be appropriated from the patent fund, to be expended under the direction of the Commissioner, for the purchase of necessary books for the library of the Patent Office. Purchase of books.

SEC. 6. *And be it further enacted,* That no person shall be debarred from receiving a patent for any invention or discovery, as provided in the act approved on the fourth day of July, one thousand eight hundred and thirty-six, to which this is additional, by reason of the same having been patented in a foreign country more than six months prior to No person to be debarred from receiving a patent, &c.

Proviso. his application: *Provided*, That the same shall not have been introduced into public and common use in the United States

Proviso. prior to the application for such patent: *And provided, also*, That, in all cases, every such patent shall be limited to the term of fourteen years from the date or publication of such foreign letters-patent.

Persons, &c., having purchased or constructed any newly invented machine, &c.

SEC. 7. *And be it further enacted*, That every person or corporation who has, or shall have, purchased or constructed any newly invented machine, manufacture, or composition of matter, prior to the application by the inventor or discoverer for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter, so made or purchased, without liability therefor to the inventor, or any other person interested in such invention; and no patent shall be held to be invalid by reason of such purchase, sale, or use, prior to the application for a patent as aforesaid, except on proof of abandonment of such invention to the public, or that such purchase, sale, or prior use, has been for more than two years prior to such application for a patent.

So much of 11th sec. act July 4, 1832, chap. 357, as requires payment for recording assignments, repealed.

SEC. 8. *And be it further enacted*, That so much of the eleventh section of the above recited act as requires the payment of three dollars to the Commissioner of Patents, for recording any assignment, grant, or conveyances of the whole or any part of the interest or right under any patent, be, and the same is hereby repealed; and all such assignments, grants, and conveyance shall, in future, be recorded without any change whatever.

Agricultural statistics, &c.

SEC. 9. *And be it further enacted*, That a sum of money, not exceeding one thousand dollars, be, and the same is hereby, appropriated out of the patent fund, to be expended by the Commissioner of Patents in the collection of agricultural statistics, and for other agricultural purposes; for which the said Commissioner shall account in his next annual report.

Provisions 16th sec. act July 4, 1836, chap. 357, extended.

SEC. 10. *And be it further enacted*, That the provisions of the sixteenth section of the before recited act shall extend to all cases where patents are refused for any reason whatever, either by the Commissioner of Patents or by the Chief Justice of the District of Columbia, upon appeals from the

decision of said Commissioner, as well as where the same shall have been refused on account of, or by reason of, interference with a previously existing patent; and, in all cases where there is no opposing party, a copy of the bill shall be served upon the Commissioner of Patents, when the whole of the expenses of the proceeding shall be paid by the applicant, whether the final decision shall be in his favor or otherwise.

Appeals.

SEC. 11. *And be it further enacted*, That, in cases where an appeal is now allowed by law from the decision of the Commissioner of Patents to a board of examiners, provided for in the seventh section of the act to which this is additional, the party, instead thereof, shall have a right to appeal to the Chief Justice of the district court of the United States for the District of Columbia, by giving notice thereof to the Commissioner, and filing in the Patent Office, within such time as the Commissioner shall appoint, his reasons of appeal, specifically set forth in writing, and also paying into the Patent Office, to the credit of the patent fund, the sum of twenty-five dollars. And it shall be the duty of said Chief Justice, on petition, to hear and determine all such appeals, and to revise such decisions in a summary way, on the evidence produced before the Commissioner, at such early and convenient time as he may appoint, first notifying the Commissioner of the time and place of hearing, whose duty it shall be to give notice thereof to all parties who appear to be interested therein, in such manner as said judge shall prescribe. The Commissioner shall also lay before the said judge all the original papers and evidence in the case, together with the grounds of his decision, fully set forth in writing, touching all the points involved by the reasons of appeal, to which the revision shall be confined. And, at the request of any party interested, or at the desire of the judge, the Commissioner and the examiners in the Patent Office may be examined under oath, in explanation of the principles of the machine or other thing for which a patent, in such case, is prayed for. And it shall be the duty of the said judge, after a hearing of any such case, to return all the papers to the Commissioner, with a certificate of his proceedings and decision, which shall be entered of record in the Patent Office; and such decision, so certified, shall govern the

further proceedings of the Commissioner in such case: *Provided, however,* That no opinion or decision of the judge, in any such case, shall preclude any person interested in favor or against the validity of any patent which has been, or may hereafter be, granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

Proviso.

Commissioner may make regulations respecting contested cases.

SEC. 12. *And be it further enacted,* That the Commissioner of Patents shall have power to make all such regulations, in respect to the taking of evidence to be used in contested cases before him, as may be just and reasonable. And so much of the act to which this is additional, as provides for a board of examiners, is hereby repealed.

Compensation of the Chief Justice.

SEC. 13. *And be it further enacted,* That there be paid annually, out of the patent fund, to the said Chief Justice, in consideration of the duties herein imposed, the sum of one hundred dollars.

Approved March 3, 1839.

CHAP. CCLXIII. — AN ACT in addition to an "Act to promote the progress of the useful arts," and to repeal all acts and parts of acts heretofore made for that purpose.

Act of July 4, 1836, chap. 357. Act of Mar. 3, 1837, chap. 45. Act of Mar. 3, 1839, chap. 87.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the Treasurer of the United States be, and he hereby is, authorized to pay back, out of the patent fund, any sums of money, to any person who shall have paid the same into the Treasury, or to any receiver or depositary to the credit of the Treasurer, as for fees accruing at the Patent Office through mistake, and which are not provided to be paid by existing laws, certificate thereof being made to said Treasurer by the Commissioner of Patents.

Treasurer authorized to pay back out of the patent fund certain money paid as fees.

Sec. 8, Act of Mar. 3, 1837, chap. 45, extended to patents granted prior to 15th Dec'r. 1836, though lost subsequently.

SEC. 2. *And be it further enacted,* That the third section of the act of March, eighteen hundred and thirty-seven, which authorizes the renewing of patents lost prior to the fifteenth of December, eighteen hundred and thirty-six, is extended to patents granted prior to said fifteenth day of December, though they may have been lost subsequently: *Provided, however,* The same shall not have been recorded anew under the provisions of said act.

Proviso.

SEC. 3. *And be it further enacted*, That any citizen or citizens, or alien or aliens, having resided one year in the United States, and taken the oath of his or their intention to become a citizen or citizens, who, by his, her, or their own industry, genius, efforts, and expense, may have invented or produced any new and original design for a manufacture, whether of metal, or other material or materials, or any new and original design for the printing of woollen, silk, cotton, or other fabrics, or any new and original design for a bust, statue, or bas relief or composition in alto or basso relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed or painted, or cast, or otherwise fixed on, any article of manufacture, or any new and original shape or configuration of any article of manufacture, not known or used by others, before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefor, and who shall desire to obtain an exclusive property or right therein to make, use, and sell, and vend the same, or copies of the same, to others, by them to be made, used, and sold, may make application, in writing, to the Commissioner of Patents, expressing such desire, and the Commissioner, on due proceeding had, may grant a patent therefor, as in the case now of application for a patent: *Provided*, That the fee in such cases, which, by the now existing laws, would be required of the particular applicant, shall be one half the sum, and that the duration of said patent shall be seven years, and that all the regulations and provisions which now apply to the obtaining or protection of patents, not inconsistent with the provisions of this act, shall apply to applications under this section.

Citizens, &c., may obtain a patent; how.

Proviso.

SEC. 4. *And be it further enacted*, That the oath required for applicants for patents, may be taken, when the applicant is not, for the time being, residing in the United States, before any minister, plenipotentiary, chargé d'affaires, consul, or commercial agent, holding commission under the government of the United States, or before any

Oath may be taken before U. S. ministers, &c.

notary public of the foreign country in which such applicant may be.

Penalty for infringing the rights of a patentee, &c., by marking.

SEC. 5. *And be it further enacted*, That, if any person or persons shall paint or print, or mould, cast, carve, or engrave, or stamp, upon any thing made, used, or sold by him, for the sole making or selling which he hath not, or shall not have obtained letters-patent, the name, or any imitation of the name, of any other person who hath or shall have obtained letters-patent for the sole making and vending of such thing, without consent of such patentee, or his assigns or legal representatives; or if any person, upon any such thing not having been purchased from the patentee, or some person who purchased it from or under such patentee, or not having the license or consent of such patentee, or his assigns or legal representatives, shall write, paint, print, mould, cast, carve, engrave, stamp, or otherwise make or affix the word "patent," or the words "letters-patent," or the word "patentee," or any word or words of like kind, meaning, or import, with the view or intent of imitating or counterfeiting the stamp, mark, or other device of the patentee, or shall affix the same, or any word, stamp, or device of like import, on any unpatented article, for the purpose of deceiving the public, he, she, or they, so offending, shall be liable, for such offence, to a penalty of not less than one hundred dollars, with costs, to be recovered, by action, in any of the Circuit Courts of the United States, or in any of the District Courts of the United States, having the powers and jurisdiction of a Circuit Court; one half of which penalty, as recovered, shall be paid to the Patent Fund, and the other half to any person or persons who shall sue for the same.

How recoverable, &c.

Patentees, &c., required to mark articles offered for sale.

SEC. 6. *And be it further enacted*, That all patentees and assignees of patents hereafter granted, are hereby required to stamp, engrave, or cause to be stamped or engraved, on each article vended or offered for sale, the date of the patent; and if any person or persons, patentees or assignees, shall neglect to do so, he, she, or they shall be liable to the same penalty, to be recovered and disposed of in the manner specified in the foregoing fifth section of this act.

Penalty for neglect.

Approved August 29, 1842.

CHAP. XLVII.— AN ACT to provide additional examiners in the Patent Office, and for other purposes.

May 28, 1848.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That there shall be appointed, in the manner provided in the second section of the act entitled "An Act to promote the progress of Useful Arts, and to repeal all acts and parts of acts heretofore made for that purpose," approved July fourth, eighteen hundred and thirty-six, two principal examiners, and two assistant examiners, in addition to the number of examiners now employed in the Patent Office; and that, hereafter, each of the principal examiners employed in the Patent Office shall receive an annual salary of twenty-five hundred dollars, and each of the assistant examiners an annual salary of fifteen hundred dollars: *Provided*, That the power to extend patents, now vested in the board composed of the Secretary of State, Commissioner of Patents, and Solicitor of the Treasury, by the eighteenth section of the act approved July fourth, eighteen hundred and thirty-six, respecting the Patent Office, shall hereafter be vested solely in the Commissioner of Patents; and, when an application is made to him for the extension of a patent, according to said eighteenth section, and sixty days' notice given thereof, he shall refer the case to the principal examiner having charge of the class of inventions to which said case belongs, who shall make a full report to said Commissioner of the said case, and particularly whether the invention or improvement secured in the patent was new and patentable when patented; and, thereupon, the said Commissioner shall grant or refuse the extension of said patent, upon the same principles and rules that have governed said board; but no patent shall be extended for a longer term than seven years.

1836, ch. 357. Additional examiners in the Patent Office.

Salaries.

Extension of patents

SEC. 2. *And be it further enacted*, That, hereafter, the Commissioner of Patents shall require a fee of one dollar, for recording any assignment, grant, or conveyance of the whole or any part of the interest in letters-patent, or power

Fee for recording conveyances of patents.

of attorney, or license to make or use the things patented, when such instrument shall not exceed three hundred words; the sum of two dollars, when it shall exceed three hundred, and shall not exceed one thousand words; and the sum of three dollars, when it shall exceed one thousand words; which fees shall, in all cases, be paid in advance.

Two copying and recording clerks authorized.

SEC. 3. *And be it further enacted*, That there shall be appointed, in manner aforesaid, two clerks, to be employed in copying and recording, and in other services in the Patent Office, who shall be paid a salary of one thousand two hundred dollars per annum.

Franking privilege of Commissioner of Patents.

SEC. 4. *And be it further enacted*, That the Commissioner of Patents is hereby authorized to send by mail, free of postage, the annual reports of the Patent Office, in the same manner in which he is empowered to send letters and packages relating to the business of the Patent Office.

Approved May 27, 1848.

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